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LONGMANS' CLASS-BOOKS OF ENGLISH LITERATURE

THE BOOK OF THE LONG TRAIL

BY

HENRY NEWBOLT

AUTHOR OF "SUBMARINE AND ANTI-SUBMARINE,"
"TALES OF THE GREAT WAR," ETC.

SCHOOL EDITION

WITH ILLUSTRATIONS AND MAPS

EDITED BY

J. C. ALLEN

NEW IMPRESSION

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INTRODUCTION

A LETTER TO A BOY

MY DEAR A.,—Here is another book for you, and for your sisters too, if they will so far honour me. The first thing you will notice about it is that it is not, as the other five have been, about war. That may disappoint you, or it may not : it would have disappointed me when I was your age—I loved no stories so well as stories of war.

Why then do I give them up ? Because, though I have not changed, war has changed. It still shows the finest qualities of men—it shows them leaving everything they love best in the world, facing dangers and enduring hardships, matching their courage and skill against those of the other side, overcoming difficulties by land and sea, and all this for an idea, the love of their country and that for which their country is fighting, the honour and welfare of mankind. But unfortunately this is not all that war does : it also shows men at their worst. I am not now speaking of the unheard-of barbarities committed by one side in the late war : I am speaking of certain things done by both sides, and quite fair according to the rules of war, in fact unavoidable if you are to fight at all under modern conditions : millions of men killed or mutilated, millions of homes made desolate, houses and churches, roads and bridges, orchards, pastures, and plough-lands turned to mud and dust-heaps—in a word, the life of the world made hideous for years, with the survivors glaring at each other across the ruins.

This, as you know, was not always so : nations used to fight by teams, as schools do—a small picked army on this side against a small picked army on that. Even then they did a lot of damage and caused a lot of misery ; but the case is a thousand times worse now. Now the whole

population of each country goes to war, the whole world is involved, and the nations fight desperately because they fight for their existence—world-power or downfall—and they feel that they must hack their way through and stick at nothing to save themselves. Do you think that this kind of fighting can go on? One such war has brought the world to the brink of ruin and starvation: what would another leave us? Can you imagine what would become of your school life if in a football match the whole of both schools played in one big scrimmage, and a hundred boys were killed on each side and a hundred injured for life, and both sides always joined in burning down the buildings of the school on whose ground the game was played? But that would be very much less cruel and absurd than modern war.

War then must stop, and you will, I hope, have no more stories of new wars. But you may have good stories for all that—stories of the same races showing the same fine qualities, setting the same endurance and courage and skill against difficulties and dangers, upholding the honour of their country too, and furthering the welfare of all mankind instead of saving part at the expense of the rest.

I daresay you will not agree to this right off: you know what you want in a story, you have always got it in stories of war, and you can hardly believe you will find it anywhere else. Well, let us consider what it is that you, and I, have always wanted and found in stories of war. Is it an account of the wounds and miseries our side have inflicted on the other side, or of the sufferings of non-combatants or our own people at home? No, in our stories we have always had to leave out that kind of detail: we wanted to forget the cruel and wasteful part, and think only of three things—first the contest, the struggle against odds and obstacles, second the moments of special daring or success, and third and best of all, the men who were the heroes of these struggles and great moments. What did they do, what were they like, how did they feel, how did they come to be what they were, great men for their country, loved and honoured in their own generation and famous for long afterwards?

Now if these are really, as I believe they are, the points we looked for in our war stories, we can have them in plenty

without going to the wars for them. You will find them all in this book: even if you should think it less well arranged or less well written than you could wish, still that is only the writer's fault—the right stuff is there none the less, the stuff that we all want and can never do without. Where will you look for finer men than these, or for more honourable enterprises than those they undertook, or greater dangers and sufferings than theirs, or moments more full of daring and excitement? Every one of them was in truth an army commander, though the army was only a handful of men and was never out to kill. What territories they invaded, these explorers, what campaigns they made, what forced marches, what flanking movements: how they managed their transport and commissariat, what risks they took, what casualties they suffered, how they supported each other, and, when disaster came, what lonely and undefeated deaths they died! If any men were ever worth your knowing, these are they: and if you once get to know them, first here and then more intimately in their own records, you will have nine men to remember and admire all your life: and no possession can be greater than that.

There is one more point. Travel and exploration are not only as interesting as war in the ways I have mentioned: they have also another set of characters and experiences which are entirely their own. The explorer often has enemies, but he cannot simply shoot them down—he must conciliate or outwit them without fighting. This is more dangerous, and more exciting even than war. Then there is often sheer starvation to be faced: hunting to be done not for sport or exercise, but for the next meal: friends to be backed or rescued at all costs: strange peoples to be traded with, trusted, or guarded against. Perhaps in the true explorer's story the peoples are even more interesting than the countries they live in. In this book some of them belong to the ancient races of the East, with civilisations of their own: others are just wild children—Burke and Wills, Livingstone and Stanley all knew how to get the best out of these: others again live an ordered but very primitive kind of life, like the Red Indians who were so good to Franklin, and the men of the Stone Age whom Wollaston

describes. Some among them even have names, and stand out as curious and delightful people. Who would not wish to have known Akaitcho and Augustus, Liu-san and Wali? Who would not long for such days of romance as that on which Wollaston and his companions at last found their way through the forest labyrinth and stood in the pygmy village: or that on which the boy of twenty-four started alone across the vast Mongolian plain in the first freshness of an April morning? Perhaps the start is the best part of a journey: it is fine to reach your goal, and to come home in triumph; but finest, I suspect, to be just going across the threshold. 'How much better,' as Scott said at the end, 'than lounging in too great comfort at home.'

I have said little or nothing of Scott: I have been allowed to tell his story mainly in his own words, and I would not add to them if I could. If you do not love him and Wilson and Bowers and Oates, then this book can be of no use to you. But I think I know you better.

Yours ever,

HENRY NEWBOLT.

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‘Then as he went his eyes also were lightened, and he saw the world anew. For he perceived how that the beauty of it was of no fading excellence, but only by long time forgotten : and belike remembered again and again forgotten many times, according as men made clean their hearts or darkened them.’

‘And now he saw that land after another fashion : for he saw it as a strange and awful land, and the folk of it as a folk beset with fearful things, yet fearing nought, as men in the hollow of God’s hand. And as folk loving and beloved he saw them, and strong and uncomplaining and compassionate, yet also working wild deeds, after the manner of men.’

ALADORE.

THE BOOK OF THE LONG TRAIL

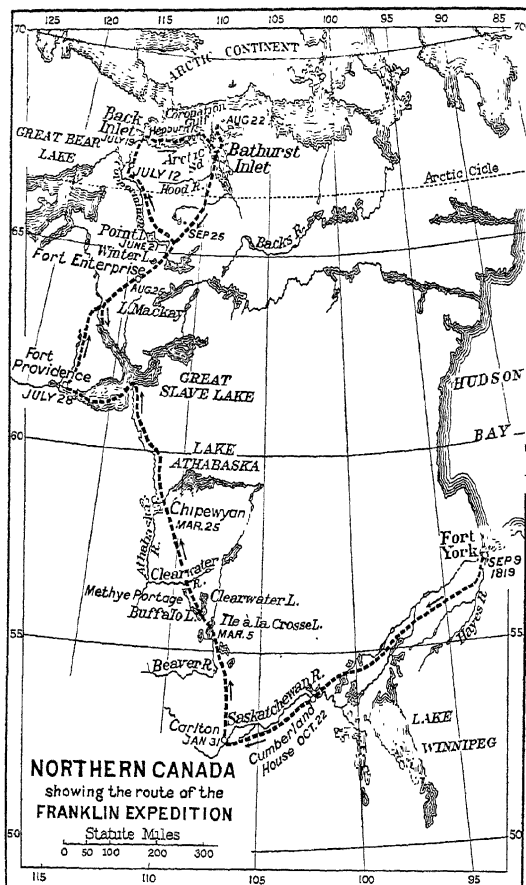
I. JOHN FRANKLIN

I. THE TRAVELLER BORN

AMONG all the various characters of men none is more strongly marked than that of the Traveller, and John Franklin is one of the most typical examples of it. In his stirring sixty years of life he served his country in a diversity of ways—he was a sailor, and fought in great battles; he was an administrator, and governed a great colony; he was an explorer, and made famous expeditions. But it was only in the last of these callings that he found his true work and a real satisfaction, for he was urged always by this one mastering desire to discover the earth and to see it for himself.

He was born in 1786 at Spilsby in Lincolnshire, one of a family of the old-fashioned kind, a round dozen in number. He had four brothers and four sisters older than himself, and seems to have been rather petted and spoiled as a little boy, for he was then very delicate and weakly, like many small boys who have grown up later to become famous men. But three more little sisters were born after him, so that he did not long remain the baby of the family. He was good-natured and affectionate, but very untidy; and this was a continual distress to the rest of the household, who were noted for their neatness and orderliness.

When he was ten he was sent to school, first at St Ives and then to the Grammar School at Louth. He had never yet seen the sea, and one holiday he and a friend decided to



make for the coast, which was only ten miles away from Louth. We are not told what they did when they got there, but when John returned he had firmly made up his mind to be a sailor. His father would not hear of such a thing, and declared that he would rather follow his son to the grave than to the sea. However, when he found at the end of two years that John had not changed his mind, he decided to send him for a cruise on board a merchant vessel trading between Hull and Lisbon. This was a much rougher experience for a boy then than it would be nowadays, and he probably thought that a taste of the realities of life at sea would cure John of all desire to be a sailor. But John returned from this voyage more determined than ever, and Mr Franklin, like a wise man, gave way. A berth was obtained for John, who was now fourteen years old, as a first-class volunteer on board H.M.S. *Polyphemus*, and in the autumn of 1800 his brother Thomas took him up to London to buy him his outfit and see him off.

In the following March the *Polyphemus* sailed with Admirals Hyde Parker and Nelson on the expedition to Copenhagen. John seems to have relished the prospect of fighting, and he certainly did his duty in the great action with the Danish batteries; but it is clear that he had already, before he sailed, felt that exploring impulse which never leaves a man when it has once seized him. The *Polyphemus* fought her battle and came back, and on July 7, 1801, John sailed for the South Seas in the *Investigator* under Captain Matthew Flinders.

The voyage was a long one, and the ship not seaworthy. A year from the start she was already refitting in Port Jackson; then she successfully mapped the coast line of the Gulf of Carpentaria, where a river still keeps the name of Flinders; but her timbers were so rotten that on her return to Sydney she was abandoned, and her officers started for home in the *Porpoise*. When 750 miles out the *Porpoise* was wrecked on a reef, and the crew were only relieved after six weeks by the *Rolla*, which took some of them, including John, on to Canton. From there he came home, sailing from Calcutta in the famous East India Fleet, under Commodore Dance. They fought and repulsed a French naval squadron on the voyage. The day after his

return he was appointed to H.M.S. *Bellerophon*, and after a winter spent in blockading Brest his ship joined the fleet off Cadiz, and eventually took part in the Battle of Trafalgar. After this John cruised in the *Bellerophon* for two years, and in the *Bedford* for seven more. In July 1815 he was promoted to First Lieutenant in the *Forth*; but the war was over, and in two months' time he found himself ashore, with his fighting career closed at twenty-nine.

He was more fortunate than others, in having a second string to his bow, and a better one. In 1818, when the Admiralty decided to send expeditions in search of the North Pole and the North-West Passage, they selected Lieutenant John Franklin to command one of the two ships which sailed on the second of these voyages. But the *Dorothea* and the *Trent* were both very small vessels, and the *Trent*, Franklin's command, was leaky; after a few months in the icepack they came back damaged and unsuccessful—an example of skill and courage wasted by official parsimony. The mistake was recognised and regretted, and in the following year, 1819, two fresh expeditions were sent out. Parry with two ships went again to Baffin's Bay; Franklin was given the command of an overland party, with orders to explore the northern coast of Arctic America and if possible to meet Parry and his ships. This time he had found the real opportunity for which he was fitted by nature, and it was actually by his work on the Long Trail by land that he won both his promotion in the Navy and his subsequent high position in the public service.

QUESTIONS

1. The *Investigator* arrived in Australian waters in January 1802. What Australian season was this?
2. What danger to navigation exists off the east coast of Australia?
3. Can you give a historical reason why John Franklin's fighting career was over in 1815?
4. Where is the continent of America pierced at the present time, to enable ships to pass from one ocean to the other? Is this better than a N.W. passage from ocean to ocean? Why is it better?

2. THE EXPEDITION TO THE NORTH-WEST

For this second expedition the Admiralty nominated three officers to accompany Lieutenant Franklin: they were Dr John Richardson, a naval surgeon, and two midshipmen, Mr George Back and Mr Robert Hood. Of these three, Richardson was medical officer and scientific naturalist, Back was cartographer and draughtsman, Hood was draughtsman, navigator, and meteorologist; all were able men, and Franklin records further that their unfailing kindness, good conduct, and cordial co-operation made an ineffaceable impression on his mind. It will be seen presently that in the light of their desperate experiences these words shine with a peculiar significance. As for Franklin himself, he was at thirty-three, as he was at sixty, when he started upon his last voyage, an ideal leader, inspiring and ingenious, forgetful of himself and full of admiration and affection for his men.

His instructions were, to determine the latitudes and longitudes of the northern coast of North America, and the trending of that coast from the mouth of the Coppermine River eastwards; the route to be decided by himself, after consulting the servants of the Hudson's Bay Company at the various places where they were established for the purposes of the winter trade.

The whole party embarked on May 23, at Gravesend, on board the Company's ship *Prince of Wales*, which sailed with two consorts, the *Eddystone* and *Wear*, northwards, along the coast of England. They touched at Yarmouth in Norfolk, and Mr Back having gone ashore there missed his ship, which could not wait for him. The boatmen who should have brought him off perceived that he was in a hurry and demanded exorbitant pay; he refused to be blackmailed, and started off overland to reach the ship at Stromness, where he was informed that she would call. He posted, coached, and sailed the distance in something under nine days, caught up his party, and ended a very midshipmanlike performance by finding his friends in a ballroom and dancing till a late hour.

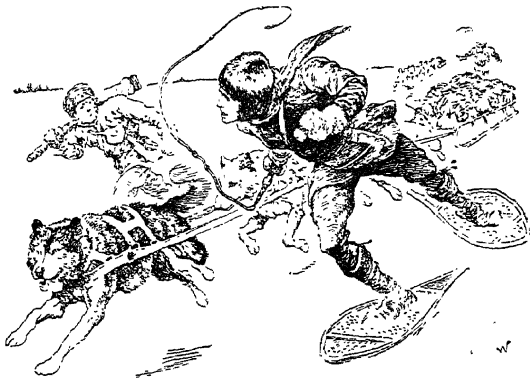
After weathering a severe gale and escaping some icebergs, the *Prince of Wales* reached Hudson's Bay, crossed

it, and anchored off Fort York on August 30. Mr Williams, the governor of the factory there belonging to the Hudson's Bay Company, immediately came on board, and gave the explorers all the information they required for beginning their overland journey. A great deal of the distance could be accomplished by following the rivers and lakes which make an irregular chain to the west and north ; a portable boat was therefore got ready and loaded with stores, and on September 9 the expedition began its first stage by sailing up the tidal estuary of the Hayes River. After six miles, however, the tide and wind both failed them, and for a great part of the journey 'tracking' or towing became necessary. This operation and the dragging of the boat over the 'portages,' or spaces between one waterway and another, were very hard work, and it was a relief to reach Cumberland House, on Pine Island Lake, on October 22. The lake was already beginning to freeze, and by November 8 the ice would bear sledges upon it.

This stage, though fatiguing, had been by a well-known track through safe country ; the next was to be considerably longer and more difficult—857 miles instead of 690—and lighter boats and a larger party must be prepared. Franklin left Richardson and Hood to procure two canoes, with men and stores, while he himself, with Back and an able seaman named John Hepburn, started ahead on January 18 on snow-shoes, accompanied by sledges drawn by dogs. They made about fifteen miles a day, and reached Carlton House, the next factory, on the 31st ; left again on February 8, and on the 23rd, after crossing the Isle à la Crosse Lake in a bitter blizzard, arrived at the Company's house there—a stage of 230 miles. The lake is named from an island on it, where the Indians formerly played an annual match at the game of La Crosse.

On March 5, after a brilliant night of the Aurora Borealis, the travellers set out again, crossed arms of Clear Lake and Buffalo Lake, lonely haunts of the Cree and Chipewyan Indians, and reached on the 13th the Methye Portage, across which they rode at their ease in carriages. Thence they tobogganed in sledges down the almost precipitous slopes towards the Clear Water River ; crossed this and the Cascade Portage, and came to an Indian encampment,

where they smoked the calumet, or Pipe of Peace, in the chief's tent. His name was The Thumb, and he and his people were dirty and disobliging. Two days later the party reached the lodge of another chief, The Sun, but though a genial host and delighted to see the Pale Faces he could give them no useful information. They smoked the calumet with him, and plunged once more into the deep snow. A week afterwards they fell in with an old Canadian carrying meat to Fort Chipewyan on a sledge with two



‘He himself, with Back and John Hepburn, started ahead.’

tired dogs ; under his guidance they succeeded in reaching the fort on March 25.

Their first object here was to obtain some certain information as to their future route, for they were now to push on into a region where they must rely entirely on their own resources. Fort Providence was the only factory house now to the north of them : after passing this they would meet with none of their own race until they returned from the Polar Sea. Accordingly the Company's agents were asked to explain to the Copper Indians, who inhabited the district, the object of the expedition, and to ask them for guides and hunters to accompany it. At the same time



' They smoked the calumet, or Pipe of Peace.'

another trading association, the North-West Company, consented to lend Mr Wentzel, one of their clerks, and a number of their *voyageurs* or French-Canadian boatmen. Then a large birchen canoe was built during the month of June : it was $32\frac{1}{2}$ feet in length, and 4 feet 10 inches wide in the centre, and was capable of carrying, besides the crew of five or six men with their provisions and baggage, twenty-five extra packages of 90 lb. each, or a total lading of 3300 lb. weight. Yet the canoe itself was so light that at a portage, when it was emptied of its cargo, it could be carried overland by two men only, and they could even run with it.

The canoe was finished just in time. On July 5 it was taken out for a trial trip, and when caught in a heavy gale on the open lake showed itself to be an excellent sea-boat. On July 13, Franklin and Back had the pleasure of welcoming their friends Richardson and Hood, who brought with them two more canoes and some stores ; but the pemmican had gone bad on the way, and as no more could be obtained at Fort Chipewyan it was necessary to move on at once, or the large party now gathered together would soon have exhausted their food supply. All unsatisfactory men were therefore weeded out and sent home, and on July 18 the rest loaded the three canoes and started for the North.

The crews went off gaily with a lively paddling song, and the descent of the magnificent Slave River made a rapid and easy beginning for their journey ; but Franklin was painfully aware of the risk they were running. Setting aside some flour, preserved meat, chocolate, arrowroot and portable soup, brought out from England expressly as a reserve for the journey to the Arctic coast, there was now in the boats only provision for one day's consumption ; after that the whole party must live on what they could find or kill. Accordingly at 10 next morning a halt was called for fishing, and nets were set at the entrance of the Dog River. The result was a failure—only four small trout were caught, to feed twenty-four people ; and Franklin was compelled to draw on his precious preserved meats for supper. By daylight next day the nets again furnished only a solitary pike. The same thing happened once more on the following morning ; but the luck then turned. A

big bison plunged into the river ahead of the boats and received fourteen rounds of rapid fire from four muskets, after which he was speedily converted into pemmican, and the flotilla went on its way singing.

This food and an additional supply purchased from



‘A big bison plunged into the river.’

Indians enabled the expedition to carry on to Fort Providence, which they reached on July 28. There they found waiting for them Mr Wentzel, with the interpreter Jean Baptiste Adam, and one of the Indian guides; and there the Indian Chief Akaitcho, or Big Foot, announced his intention of visiting them next morning. He arrived with a procession of canoes, landed, put on a very grave air,

walked up to Mr Wentzel, who spoke his language, and was introduced to the British officers. He then made a dignified and pathetic speech, saying that he had agreed to accompany the expedition, and hoped it would be productive of much good to his tribe ; but it had already caused him a great grief. The report had reached him that among the members of it was a great Medicine Chief who could restore the dead to life. At this he had rejoiced, thinking to see again the departed who were dear to him ; but his first words with Mr Wentzel had removed these vain hopes, and he felt as if his friends had been torn from him a second time. He now wished to be informed exactly of the nature of the expedition.

In answer to this speech, which was understood to have been many days preparing, Franklin said that he had been sent out by the Greatest Chief in the world, who was the friend of peace and had the interest of every nation at heart. This Chief, having learned that his children in the North were much in need of merchandise, the transport of which was hindered by the length and difficulty of the present route, had sent the expedition to search for a passage for his vessels through the North-West sea ; and also to make discoveries for the benefit of the Indians and all other peoples. For these purposes he desired the assistance of his Indian children, and especially he enjoined upon them that all hostilities must cease between them and their neighbours the Esquimaux. Remuneration would follow in the shape of cloth, ammunition (for hunting), tobacco, and useful iron instruments ; their debts to the North-West Company must also be discharged.

Akaitcho thereupon renewed his assurances ; as to the Esquimaux he recommended caution, because they were, he said, a very treacherous people, but he would do everything in his power to help the British. And he kept his word ; he was a man of character and ability, obstinate but honourable and shrewd. His tribe, who were Copper Indians of the great Chipewyan or Northern nation, had done some rough things when on the war trail against the Esquimaux, but to Franklin and his men they showed only faithfulness and goodwill.

QUESTIONS

1. What is the best season for exploring in Arctic regions? What prime natural phenomenon puts exploration out of the question at any other season?
2. Who was the 'great white chief' reigning in England in 1819, when the Franklin expedition sailed?

3. DRIVEN INTO WINTER QUARTERS

The expedition left Fort Providence on August 2, 1820. It consisted now of the following persons:—the four officers, Franklin, Richardson, Back, and Hood; Frederick Wentzel, adviser and interpreter-general; John Hepburn, British seaman, that is to say, under-officer, guard, officers' servant, purveyor, handy man, and stand-by. Then there were seventeen *voyageurs* or boatmen, of whom fifteen were French-Canadians, one an Italian, Vincenzo Fontano, and one an Iroquois Indian, Michel Teroahauté, who was, as we shall hear later, the one tragical element in the story. Besides these *voyageurs* there were three of their wives, brought for the purpose of making shoes and clothes for the men during the winter, and they had three of their children with them. Lastly, there were two Canadian interpreters, St Germain and Adam, and one Indian, with the French name of Bois Brulés. The party travelled in three large canoes, with a smaller one to convey the women; and they all started in high spirits, Franklin and his officers being especially eager to explore a line of country which had never yet been visited by any European.

Next day they embarked again before dawn and reached the entrance of a stream called by the Indians Beg-ho-lo-dessy, or the River of the Toothless Fish. Here they found Akaitcho and his hunters, with their families, waiting for the expedition. The Indians quickly put off in seventeen canoes, and the whole flotilla went forward. Akaitcho began by travelling in state, in a canoe paddled by a slave whom he had captured from the Dog-Rib Indians; but after a few days he showed his good sense by helping to paddle and even to carry his canoe at the portages. He

also made his people assist the white men in carrying the baggage, and they obeyed cheerfully. On the second day they were rewarded by a new and exciting pleasure: Mr Back got out a fishing-rod and caught several fish with a fly. His skill and success astonished and delighted the Indians, and every fisherman will understand how much this common interest must have done to create an understanding between the White and the Red men. But fish were not always procurable, and the preserved meat was again drawn upon till it gave out. Food supply was evidently going to be the great difficulty, and some of the Indians went ahead to hunt game for the rest; Akaitcho stayed with Franklin, and was always entertained at his table as a token of regard. By August 8 the Canadians were exhausted by fatigue and short rations; Franklin was driven to issue the portable soup and arrowroot. Three days later a good supply of fish was secured and the Indians were reported to have lit fires—a sure indication of their having killed some reindeer. Shortly afterwards they brought in several carcasses, and the crisis was over for the time.

But difficulties multiplied upon the expedition. On the 25th the first frost and the migration of the geese gave signs of the approach of winter. The same day Hepburn went out shooting, and for two days was completely lost in the foggy and trackless woods. The Indians were very sympathetic, but were in two minds about risking the same fate by going on a search party. At last three men and a boy went out and brought poor Hepburn back half dead with hunger and self-reproach. The third and greatest trouble was a complete disagreement with Akaitcho. The Englishmen had always hoped and intended to reach the Coppermine River and go down it to the coast before winter; Akaitcho now assured them that this was dangerous and indeed impossible so late in the season. If they went he was resolved to go back to Fort Providence; this he was too courteous to say to Franklin, but he confided his intention to Wentzel, who of course told his leader. Franklin then had it out with the Chief, who argued the question keenly, and ended by saying, 'If after all I have said you are determined to go, some of my young men shall join the

party, because it shall not be said that we permitted you to die alone; but from the moment they embark in the canoes I and my relatives shall lament them as dead.'

After this Homeric conference the English chief of course gave up his plan with perfect candour and good temper, though he was bitterly disappointed. He confesses that the change in the weather did somewhat alter his opinion, but says stoutly that if the Indian had been willing he would have made the attempt. Then he gives his own case away by adding, 'with the intention however of returning immediately upon the first decided appearance of winter.'

His new plan was a better one. With Akaitcho's approval he sent Back and Hood forward in a light canoe to ascertain the distance and size of the Coppermine River. Akaitcho and his young men were to go to the hunting grounds and kill food for the winter; and the rest of the party were set to work felling timber and building a house for the winter quarters of the expedition. They were none too soon, for September began with a daily fall of the temperature to freezing point. On the 4th the timber was ready, and they began to build the house so long remembered as Fort Enterprise.

Franklin, having seen this work well begun, went off on foot to reconnoitre the Coppermine River, which still attracted him like a magnet. He took with him Richardson and Hepburn, a *voyageur* named Sumandré, and old Keskarrah, an Indian guide, who succeeded in keeping the party well fed with reindeer's meat. He also gave them a curious insight into the hardness of the Indians. Owing to the coldness of the nights the white men slept by the camp fire without undressing. 'Old Keskarrah followed a different plan. He stripped himself to the skin, and having toasted his body for a short time over the embers of the fire, he crept under his deerskin and rags, previously spread out as smoothly as possible, and coiling himself up in a circular form, fell asleep instantly. This custom of undressing to the skin even when lying in the open air is common to all the Indian tribes. The thermometer at sunset stood at 29°.'

Franklin in making this journey had compromised

between determination and prudence, and the result was a half success ; his party came within sight of the Coppermine River, but they were then overtaken by a heavy snowstorm which warned them plainly that it was time to turn back. They were not really many miles out, but soon after beginning the homeward journey the guide began to lose his way in the snow, and when they halted in the blizzard it took two hours to make a fire burn, and during that time the clothes of the wanderers were freezing upon them. They had to sleep half standing, with their backs against a bank of earth, and the next night, spent among some small pines, was not much more comfortable. On the third day a strenuous effort became necessary, for their provisions were exhausted ; they pushed doggedly on, and finished the day's march of twenty-two miles by 8 in the evening. At Fort Enterprise they found their friends Back and Hood, who had returned some days before ; and they soon forgot their fatigue over a substantial supper of reindeer steaks.

It was not yet October, but all travelling to the northward was now over for the season, and many preparations must be made before a fresh start could be attempted. The year had not seen all the explorers' hopes fulfilled, but they had learnt a good deal about travelling in the North-West, they had established a good advanced base, and they calculated with some satisfaction the distance they had accomplished in 1820, that is, since leaving Cumberland House. It was 1520 miles. We cannot doubt that they also reckoned up, but with a good deal less pleasure, the sixteen months which had now gone by since they saw their own country or received a word from home.

QUESTION

On a map (not Mercator's projection), measure the following distances by reference to the scale on which the map is constructed : Fort York to Cumberland House, 52° N. 103° W. (approx.) ; Cumberland House to Fort Chipewyan ; Fort Chipewyan, down the Great Slave River to Fort Providence, at the western end of the Great Slave Lake. (The actual journey, owing to detours, would be longer than the distances measured on the map.)

4. OVERLAND TO THE POLAR SEA

The officers' house at Fort Enterprise was completed on October 6, and they at once struck tents and removed into it. It was a plain log building, 50 feet long and 24 wide, divided into a hall, three bedrooms, and a kitchen. The walls and roof were plastered with clay, the floors laid with planks rudely squared with the hatchet, and the windows closed with parchment of deerskin. The clay cracked and made the building draughty, but it was a comfortable dwelling compared with the tents, and having filled the capacious clay-built chimney with fagots, the party 'spent a cheerful evening before the invigorating blaze.'

The events of the winter were few but interesting. On October 18 Back and Wentzel started for Fort Providence, to bring up fresh stores. On the 22nd the whole party was excited by the mysterious arrival of a strange dog. By the marks on his ears the Copper Indians, who keep no dogs themselves, recognised him as belonging to the Dog-Rib tribe; but his presence in that neighbourhood was never accounted for, though a search was made to see if Dog-Ribs might be hiding near. On the 26th Akaitcho and his party arrived—a serious addition to the eating power of the community. A day or two later the men's house was finished and occupied: it was 34 feet long and 18 wide, and with the officers' quarters and the storehouse it made three sides of a quadrangle.

On November 23 the *voyageur* Belanger returned from Fort Providence, having made a final forced march of thirty-six hours. His hair was matted with snow and his body encrusted with ice; the packet of letters he carried was frozen hard, and had to be slowly thawed, while the Indians sat silently watching the Englishmen's faces to judge of the character of the news received. It was partly bad, for some stores had been stolen, and partly good, for two Esquimaux interpreters had been procured, and that was proof of the influence of Franklin and his friends. This impressed the Indians, but it was little to the Englishmen

compared with the home letters which they now held in their hands. These had come by way of Canada, and had been brought up in September to Slave Lake by the North-West Company's canoes ; the latest of them had left England in the preceding April, nearly a year after the expedition sailed, and were therefore only seven months old. With them were newspapers which announced the death of King George III and the accession of George IV ; but this piece of news was carefully concealed from the Indians, lest the death of the Great Chief might be supposed to lessen Franklin's authority and make him unable to fulfil his promises to them. It is doubtful whether Akaitcho himself was kept in the dark ; for he was, Franklin says, a man of great penetration and shrewdness, who often surprised the Englishmen by his correct judgment of the character of individuals, steadily comparing their conduct with their pretensions, and attentively observing everything, though most of his information could only be obtained through the imperfect medium of an interpreter.

On January 27, 1821, Mr Wentzel and St Germain returned, bringing with them the two Esquimaux. Their names were Tattannœuck (The Belly) and Hœootœrock (The Ear), but these had been judiciously changed to Augustus and Junius, derived from the two months in which they had been originally engaged at Fort Churchill. Augustus spoke English and became an important member of the expedition.

The winter was comfortable, but long and uneventful. Spring is noted as having begun on May 12, but the temperature was still down to freezing-point. It was not until June 12 that the Winter River was fairly clear of ice, but by then the whole expedition was in readiness, and on the 14th they started towards the North. The first stage was overland to Winter Lake ; the canoes were dragged on ' trains ' by teams of four men and two dogs each, the rest followed on foot, carrying stores and instruments. The air was still cold and snowstorms were frequent, but several lakes were successfully crossed, and on the 21st the expedition joined up with Akaitcho and his hunters at Point Lake, which was still frozen. The rest of the Indians had already gone further north. Nine days of hard travelling followed,

and on July 1 the whole party came at last to the Coppermine River.

Next day they launched upon this river, which was 200 yards wide and flowed rapidly over a rocky bottom. For the first three miles the canoes were carried along by the stream with extraordinary speed, gliding over boulders and plunging through rapids and drift ice. Now and then it was necessary to halt and repair them, and at specially dangerous points the ammunition, guns, and instruments had to be put ashore and carried along the bank. This uncomfortable but rapid method of journeying continued for a fortnight, during the whole of which time deer and musk oxen were shot in plenty and fish were also caught.

On July 6 the canoes shot a series of rapids which carried them past the entrance to a lake called the Fairy Lake. Franklin inquired the meaning of this name, and found to his delight that the Northern Indians had a race of fairies of their own. They are six inches high, they lead a life similar to that of the Indians themselves, and are excellent hunters. Those who have the good luck to fall in with their tiny encampments are always kindly treated, and feasted on venison. But unfortunately this did not happen to the Englishmen: they got no nearer than hearsay. They did, however, meet with some very friendly Indians of ordinary size, headed by two chiefs named Long Legs and The Hook.

On July 12 Franklin found that he was on the confines of the Esquimaux territory, and became anxious about the possible result of a meeting between them and the Copper Indians, who had massacred some of them in their last war. On this day too the expedition was rushed by a bear, which pursued two Indians into the middle of a whole party on the shore so suddenly and fiercely that all the hunters fired wildly and missed him at close quarters. Akaitcho alone kept his head, took deliberate aim, and shot the beast dead at the critical moment. The Indians would not eat bear's meat, but the white men did, and found it excellent.

The Indians were now kept behind, and Augustus and Junius were sent forward to find the Esquimaux and negotiate with them. This they succeeded in doing on July 14,

but next day the Indians disobeyed orders and came up to the front, whereupon the Esquimaux bolted, expecting another massacre. At last an old chief named Terregan-nœuck was found ; he was too infirm to run away, but he thrust out with his spear at Augustus, and at Akaitcho. Afterwards the Esquimaux reappeared in such numbers that the Indians in their turn became alarmed and wanted to go home at once, lest they should be surrounded and cut off. Franklin let them go, and made his way forward to the sea under the guidance of Augustus.

He reached the seashore on July 19, 1821, having come a distance of 334 miles from Fort Enterprise, of which 217 were traversed by water, while for 117 miles the canoes and baggage were dragged over snow and ice. The first objective of the expedition had been gained.

The second was to be the survey of the coast-line to the east, but this no longer appeared so simple as it had done when planned in England ; the difficulty of food supply was now realised. The British officers, however, were delighted to see the sea again. They started therefore in high spirits on what can only be described as a month's naval picnic. Every day they made what progress they could along the deeply indented coast-line, mapping all the headlines and bays, and naming them after friends at home. Every night they came ashore to sleep and kill game ; at times they lived well, at times they nearly starved ; they ate anything and everything : deer, reindeer, fish, fat bears, lean bears, wild swans, cranes, musk-oxen, geese—even seals and white foxes. But the time came when this hand-to-mouth picnic had to end ; the weather became extremely rough, the Canadian *voyageurs*, who were only freshwater sailors, were terrified by the height of the waves, and the canoes had to keep near the shore, where they found calmer water but were in danger of sunken rocks. Franklin saw that he could do no further surveying, for he could not pass with any hope of safety outside the eastern end of the great sound in which he had hitherto been sailing—the bay now called Bathurst Sound, but named by the expedition George IV's Coronation Gulf. He had also to think of his return to Fort Enterprise ; and there was a reason beyond all these, which gave him

great pain—he discovered that his men, who had hitherto shown courage beyond his expectation, had now so completely lost their nerve that they expressed their fear even in the presence of their officers. On August 12, after consulting his staff, he decided to turn in four days' time; the distance accomplished was 550 miles, and he had seen enough to convince him of the existence of a continuous coast-line—that is to say, of a salt-water passage from sea to sea.

QUESTIONS

1. Fort Enterprise was in latitude $64\frac{1}{2}^{\circ}$ N. (approx.). How many degrees of latitude was the Arctic Circle from it?
2. In early September the temperature fell to freezing point. Spring began in the middle of the following May. How many months of winter were there in this latitude? (By June 12 the Winter River had thawed and was free of ice.)
3. What kind of trees would grow in this latitude?
4. How many days' journey from the sea did the party meet with Esquimaux?
5. The explorers went eastward along Coronation Gulf until the 14th of August. They turned back eight days later. How much Arctic summer still remained? What circumstance would be in their favour on the return journey? What unfavourable feature would they have to contend with by river when returning?

5. THE BARREN GROUNDS

Franklin's original intention had been to return by way of the Coppermine River, find The Hook and his hunters, and travel to Slave Lake through the woods by the Great Bear and Marten Lakes; for it was of course impossible to travel upstream on so swift and strong a river as the one by which they had come down. This plan was evidently no longer feasible; the coast voyage had brought the explorers further than they expected, and their provisions were too scanty for the return journey, especially as it would take them through a desolate country known as the Barren Grounds. This must be crossed by the shortest possible cut. Franklin determined to make for Arctic Sound, an inlet to the south-west, where he had found the animals rather more numerous than elsewhere along the coast. From there he could make his way up Hood's River as

far as it was navigable, and then break up his large canoes and use the materials to make smaller ones which could be carried across the portages of the Barren Grounds and so back to Fort Enterprise. There he would find Mr Wentzel and Akaitcho's hunters, with fresh stores of meat.

The weather now turned stormy and delayed his departure from his comfortless camp, which he named Point Turnagain. He had a day of great anxiety too: Junius had shot a deer, and Belanger the *voyageur* and Michel the Iroquois went out to help him bring it in. None of them returned, and a search party found them after twenty-four hours badly frozen, quite lost, and without the deer, which they had found but abandoned. Then Augustus got lost too, and was out all night. Finally, the start was made on August 22, and the spirits of all rose; but their hunting that day was a failure, and they had to go to sleep dinnerless. After this, in bad weather and on a level of frozen rocks, the food supply became a very grim problem. By September 6 all the store of pemmican was eaten, and only a little arrowroot and portable soup remained. The Canadians began to weaken, and were repeatedly blown down by the wind while carrying the boats. On the 7th Benoit fell so heavily as to break the largest canoe beyond repair. On the same day Franklin himself fainted on the march. That morning they made the best of a bad business by using the broken canoe for firewood and serving out the last of the soup and arrowroot.

In the afternoon they discovered a new resource, which helped them considerably for many days after. They entered a tract of country where the rocks were covered with a lichen called by the Canadians *tripe de roche*, not very nourishing but eatable enough. With half a partridge each they made a slender supper of this, and then slept in their damp clothes. But they took off their shoes and socks and lay upon them to prevent them from freezing; and this now became their regular practice. It is a vivid touch of hardship; but in the matter of shoes there was a worse extremity to come.

Two Arctic hares were killed on September 9, and 4 lb. of meat was robbed from a wolf's half-eaten dinner; on the 10th a musk-ox was shot. After that, berries and a

single partridge kept the party for two days; *tripe de roche* was not agreeing with their stomachs. The men's packs were now lightened by abandoning everything except ammunition and the instruments necessary for finding the way. Franklin lent his gun to St Germain, and Hood lent his to Michel the Iroquois, and rewards were offered for any animals killed by any of the party. Michel was the most eager and successful; and Perrault the Canadian distinguished himself on September 14 by an act of great kindness and loyalty. Seeing the officers standing round a small fire, and no doubt talking gravely, he came up and presented each of them with a small piece of meat, which by great self-denial he had saved from his own allowance. Franklin says this filled their eyes with tears, being totally unexpected in a *voyageur*, for these men had not always behaved well.

Later in the day a very trying incident occurred. A river was to be crossed, and Franklin was to go first with St Germain and Belanger. The stream was about 300 yards wide, and flowed with great velocity through a broken rocky channel. At the smoothest place the canoe was placed in the water at the head of a rapid and the three travellers embarked. In mid-channel the canoe became difficult to manage; the wind caught it and the current drove it to the edge of the rapids. Belanger made a violent effort to keep off, lost his balance, and the canoe went over in the middle of the rapids. All three men kept hold of it until they came to a rock where the water was only waist deep; there they stood fast and emptied the canoe. Belanger then held it steady while Franklin and St Germain got on board; but he then found that he could not embark himself, for the moment he raised his feet from the rock the boat would have been swept down the rapids again. He therefore pushed the other two off towards shore and stayed on the rock himself. Franklin and St Germain struck another rock, sank, stood up again in shallow water, and emptied the boat once more; then got across at the third attempt.

Meantime poor Belanger was suffering extremely, standing up to his middle in water very little above freezing point, with all his clothes soaking and a cold wind cutting

him. He called piteously for help, and St Germain tried to get to him in the canoe, but it was carried past him by the current. The Canadian Adam then tried, but he too failed. The slings of the men's loads were then tied together to make a rope, and the canoe was paid out on this, but it broke with the force of the stream. A second attempt was made with a small cord from one of the nets, and this time the canoe passed so near to Belanger that he caught it ; but before he could get on board he was carried down through the rapids and dragged ashore insensible.

By Dr Richardson's orders he was instantly stripped and rolled in blankets ; then two men stripped and lay down on each side of him, to act as living hot bottles ; but it was some hours before he recovered enough to be put to bed in front of a fire. Franklin was then rescued by Augustus, who brought the canoe across and took him back with the greatest coolness and skill.

For several days after this game almost entirely failed them ; they lived on *tripe de roche* and a few partridges, pieces of skin, and old bones of deer, and even their own old shoes. On September 22 their last canoe was broken by several severe falls, and the *voyageurs* demanded that it should be abandoned. Franklin refused, but they threw it down and left it while he was following another track in search of Dr Richardson, who had strayed. These men were now quite furious, believing that the Indian hunters had played false with the expedition ; but the officers were firm, and the situation was saved on the 25th by the appearance of a herd of deer, out of which five were shot.

They were now at the east end of Point Lake. Mr Back was sent forward with the interpreters to search for game ; and Junius and the *voyageur* Crédit also went off in another direction. On the 28th, camp was pitched by the Coppermine River, here 130 yards wide, which Franklin decided to cross by means of a raft. This was built of willows, but there was no wood for oars or paddles, and the men were becoming hopeless when Dr Richardson volunteered to swim across with a towing line. He got nearly across, but first his arms became powerless, and then his legs ; at last he sank, and was hauled back nearly lifeless. He was stripped and rolled in blankets, and at sight of his

skeleton-like body the Canadians all burst into a cry of 'Ah! que nous sommes maigres!' They were at any rate less lean than their officers, for they had not only stolen rations but had often eaten the partridges they shot instead of bringing them back for the common stock.

Back now returned, and St Germain set to work to build a new canoe out of the fragments of canvas in which the men carried their bedding. In this he succeeded, on October 4, in crossing the river, and eventually in transporting the whole party. Franklin then immediately sent Back forward again with three men to search for the Indians, and if necessary to push on to Fort Enterprise; the spirits of the *voyageurs* rose incredibly, and they insisted on shaking hands with their officers. But their troubles were not yet over: they weakened day by day, and could no longer carry their loads. The stronger ones wished to go ahead and leave the weaker. Hood, who was growing very weak, and Richardson, who was lame, now offered to stay behind with a single attendant and ten days' supply of *tripe de roche*, while Franklin and the rest went on to Fort Enterprise. Franklin was much distressed, and argued with them for a long time, but at last he had the good sense to agree; he left them John Hepburn and a barrel of powder, and pushed on. Richardson and Hepburn were in fact fit enough to go with him; they were risking themselves for Hood's sake.

Franklin's forced march was a terrible one; Crédit was still missing somewhere in the rear, Vaillant was too exhausted to be moved, Perrault and Fontano soon turned dizzy and collapsed. He pushed on with only Adam and three others, and reached Winter River at last without a morsel of food left; there were reindeer in sight, but all four men were now too feeble to follow them or raise a gun. But they were within one day of home; they crept under their blankets and 'kept up a cheerful conversation' in place of supper. Next day they lived on a little tea and some shoes, and made straight for the house in silence, agitated with hopes and fears. The fears had it: Fort Enterprise was perfectly desolate, without a trace of the Indians, of Wentzel, or of any kind of provisions. The whole party realised not only their own fate but that of

their friends in the rear, and there was not one of them who could refrain from tears.

6. RED MEN, BEST AND WORST

After the first bitter moment of disappointment Franklin regained the vigour of mind for which he was always remarkable, and began to form his plans. A note was found from Mr Back, stating that he had reached the house two days ago and had gone in search of the Indians, intending to make his way if necessary as far as Fort Providence. But Franklin knew how weak Back and his companion St Germain must now be, and how long supplies would be coming from such a distance ; moreover, there were Hood and his party to be supplied immediately. He determined therefore to go in search of the Indians himself, as soon as he could get his party to face another effort. In the meantime he looked about for food, and thought himself lucky to find several old deerskins, and some bones in the ash-heap ; with these and some *tripe de roche* he thought he could keep his party alive for a few days.

That night Augustus appeared unexpectedly, and on the 13th Belanger returned with another note from Back, asking for fresh instructions as he had failed to find the Indians at or near Winter River. Franklin replied, telling him to rendezvous at Reindeer Lake, where he would join him on the way to Fort Providence, for he was now convinced that the Indians must be there. Belanger started on his return journey on the 18th, after trying hard to conceal from Franklin where he had left Back and St Germain—he was afraid the whole party might follow him and take a share of the food that St Germain killed.

His selfishness was quite unnecessary, for the men were most of them hopelessly unfit to move ; Adam's limbs were so swollen that he could not march at all. When the time came Franklin could only take with him Augustus and Benoit, and the little party of three could hardly crawl along. But the others gave them a brave send off, and they did four miles in six hours' walking. They supped on deerskin and tea, and found the night bitterly cold.

Next morning they started again, but had not gone many yards when Franklin fell between two rocks and broke both his snow-shoes. He made a plucky attempt to keep up with the others in spite of this ; but he soon became exhausted, and saw that he was only delaying them and endangering the whole expedition. He therefore wrote directions for them to take on to Back, and himself returned alone to Fort Enterprise. He found the *voyageurs* much weaker and in tears.

That evening, as they all sat round the fire, talking of the coming relief, a noise was heard in the other room. 'Ah ! le monde !' exclaimed Peltier joyfully, making sure that the Indians had come. But to his great disappointment it was not the Indians who entered, but Richardson and Hepburn. Franklin was of course very happy to see them, but they looked miserably emaciated, and he hardly dared to ask after their companions. Richardson told him the news briefly, and it was terrible. Perrault and Fontano had never been seen again ; Hood and Michel were dead. No more was told at that time, for they knew that they could bear no more on either side. Richardson even asked the party in the house to speak more cheerfully, not realising that his own tones were equally weak and sepulchral. The seven men supped ravenously upon a single partridge, and the Doctor, having saved his prayer-book, read evening prayers before they went to bed.

It was not till after supper next day that Dr Richardson's narrative was told. After Richardson, Hood, and Hepburn had voluntarily remained behind, in hope of a speedy rescue, they were joined by Michel the Iroquois, who immediately killed some game for them. He had been sent by Franklin with a note, saying that Perrault and Belanger would also join the party ; but these two, he said, had left him on the way ; and he declared that Perrault had given him Franklin's gun and bullets, which he had been carrying. Neither Perrault nor Belanger was ever seen again ; but a piece of wolf's flesh in Michel's possession, was afterwards found to be part of a human body.

Michel's manner now became surly and difficult : sometimes he hunted, sometimes he refused to hunt. On the 19th of October he would not even help to carry a log to

the fire, and when Hood lectured him on his duty he exclaimed: 'It is no use hunting, there are no animals: you had better kill and eat *me*.' The next day, Sunday, while Richardson was gathering *tripe de roche* after morning service, and Hepburn was cutting down a tree for fuel, Hood was left sitting by the fire, arguing again with Michel, who showed great unwillingness to hunt, and was hanging about under pretence of cleaning his gun.

Richardson heard a shot fired, but thought nothing of it until ten minutes afterwards, when Hepburn's voice was heard shouting to him, in great alarm, to come directly. When he reached the fireside he found Hood lying lifeless, with a bullet wound through his forehead. For a moment he thought with horror that the poor fellow might have killed himself in a fit of despondency; then he remembered Michel, and examined the wound. The bullet had been fired into the back of the head, and the gun had been held so close that Hood's cap was burnt behind.

Michel's account of it was that Mr Hood had sent him into the tent for the short gun, and in his absence the long gun had gone off, he could not tell how. But the long gun was so long that no man could have shot himself with it in any position. Michel repeatedly protested that he was incapable of having committed murder, and Richardson dared not openly show his suspicions; but it was noted that Michel after this never left the two Englishmen alone together, and he knew enough English to understand if they had spoken of the subject in his hearing.

On the 23rd the diminished party set out to march for Fort Enterprise; for it was only Hood's weak condition that had kept them behind the others. Michel and Hepburn each carried one of the guns, and Richardson had a small pistol, which Hepburn had loaded for him. Michel's conduct soon became alarming; he assumed a tone of superiority, and expressed his hatred of the white people, or French, as he called them; some of them, he said, had killed and eaten his uncle and other relatives. It became plainer every moment that he had the two Englishmen in his power; they were very weak and badly armed, while he had the best gun, two pistols, an Indian bayonet and a knife, and the strength to use them. The crisis came in the

afternoon, when he made some *tripe de roche* an excuse to lag behind, saying that he would catch the others up shortly. It was more than probable that he meant to attack them while they were in the act of encamping ; in any case they were doomed, and Hepburn took this opportunity to offer to make an attack upon their crazy enemy.

Richardson, however, could not leave so great a responsibility to a subordinate. He was thoroughly convinced of his own duty, and he did it with unshaken nerve. He waited for the Iroquois, who at last came up, and of course without the *tripe de roche* which had been his excuse ; then with the single shot from his pistol he killed him instantly. Six days afterwards he and Hepburn stumbled into Fort Enterprise.

It is hardly necessary to say that this stern execution was approved by all those to whom the facts were now told ; but the story cast a deep gloom over the whole party. This was much increased by the illness of Franklin, Hepburn, and Adam, all of whom suffered from weakness and swellings ; Richardson too was declining in strength. The general lassitude was such that it became too great a labour to separate the hair from the deerskins on which they were mainly living, so that they actually ate less than their stock afforded, and of course increased their weakness still more. They generally succeeded in sleeping at night, and their dreams were pleasant, being for the most part about the enjoyments of feasting. But Franklin notes that as their bodily strength decayed, their minds also weakened, and they became unreasonably irritable with each other. They could not bear even the smallest kindness one from another, or assistance of any kind. Hepburn, who kept his sense of humour, was heard to remark : ' Dear me, if we are spared to return to England, I wonder if we shall recover our understandings.'

On November 7 Adam was apparently dying ; Franklin was with him, and the Doctor and Hepburn were cutting wood outside, when a shot was heard. They could not believe their senses, until a shout followed, and they saw three Indians close to the house. Richardson hurried in with the joyful news, but poor Adam could scarcely understand it ; when the Indians actually entered he attempted

to rise, and sank down again. But he began to mend from that moment.

The Indians had left Akaitcho's camp only two days before, after Back had found them. They brought a note from him, and some meat, on which the starving expedition badly over-ate itself, in spite of the Doctor's warning. After an hour's rest, one of the Indians, named Boudel-Kell, returned to Akaitcho with the news, and a request for more food; the other two, Crooked-Foot and The Rat, remained to take care of the sufferers. Franklin was very greatly impressed by their efficiency and kindness; they were in every way as good as a trained ambulance. They began by clearing the house of the accumulations of dirt and pounded bones, and keeping up large and cheerful fires, which produced a novel sensation of comfort among their patients. They carried in the pile of dried wood by the river-side, on which the Englishmen had often cast longing eyes, when they were too weak to drag it up the bank. Franklin says that they 'set about everything with an activity that amazed us. Indeed, contrasted with our emaciated figures and extreme debility, their frames appeared to us gigantic and their strength supernatural. These kind creatures next turned their attention to our personal appearance, and prevailed upon us to shave and wash ourselves. The beards of the Doctor and Hepburn had been untouched since they left the sea-coast, and were become of a hideous length, and peculiarly offensive to the Indians.' Hepburn was soon getting better, and Adam recovered his strength with amazing rapidity.

Next day Crooked-Foot further distinguished himself by catching four large trout in Winter Lake, which were a very welcome variety of food. Then the weather changed to snow, and the Indians seemed to become despondent. On the night of November 13 they silently vanished away; but in two days Crooked-Foot reappeared, bringing with him two others, Thooee-Yorre and The F.p., whose wives also came, dragging a cargo of provisions. There was a note too from Back, who with his party was setting out for Fort Providence. Franklin at once resolved to do the same, and on November 16 the start was made.

Franklin writes feelingly of the emotions with which he

and his friends left Fort Enterprise, where they had formerly enjoyed comfort and even happiness, but latterly had experienced a degree of misery hardly to be paralleled. 'The Indians,' he adds, 'treated us with the utmost tenderness, gave us their snow-shoes, and walked without



'Crooked-Foot further distinguished himself by catching four large trout.'

themselves, keeping by our sides that they might lift us when we fell. They prepared our encampment, cooked for us, and fed us as if we had been children; evincing humanity that would have done honour to the most civilised people.'

On the 26th they reached the abode of Akaitcho, where they were received in the Chief's tent with looks of com-

passion and a profound silence of sympathy, which lasted a quarter of an hour. Conversation did not begin till they had tasted food ; and Akaitcho showed the most friendly hospitality, even to cooking with his own hands, an office which he never performed for himself. His brothers, Annoethai-Yazzeah and Humpy, with their families, also came in to express their sympathy.

On December 1 the party set out again under escort of the Indians, and on the 6th they were met by a convoy from Fort Providence bringing supplies and some letters from England. By these they learnt of the successful termination of Captain Parry's voyage ; and of the promotion of Franklin and Back, and Hood too, for whom this news made them grieve afresh. Two days afterwards, after a long conference with Akaitcho and the distribution of many presents, they took leave of him and his kind and faithful Indians, and pushed on in dog sledges to Fort Providence. Akaitcho, however, with his whole band, rejoined them there on December 14, and smoked one more pipe with them, made them more than one more speech, and ended by expressing a strong desire that the character of his nation should be favourably represented in England. ' I know,' he said, ' you write down every occurrence in your books ; but probably you have only noticed the bad things we have said and done, and have omitted to mention the good.' Next day the expedition left for Moose-Deer Island, and he and his men bade them farewell, with a warmth of manner rare among the Indians.

Franklin and his party rested at Moose-Deer Island till May 25, and nearly regained their ordinary health. Their stores arrived from the coast, and they were thus enabled to send full payment to their Indian friends, with an additional present of ammunition. They then left for Fort Chipewyan, and finally reached York Factory on July 14, 1822, having been three years all but a month on their long, fatiguing, successful and disastrous expedition, and having journeyed in Canada by water and by land no less than 5550 miles.

II. DAVID LIVINGSTONE

I. THE YOUTH OF AN APOSTLE

DAVID LIVINGSTONE, like John Franklin, may be described as a born traveller; he had in a high degree the qualities which are most necessary for living in the wilds and coping with every kind of hardship and difficulty. But he differed in one respect from all the other characters in this book: travelling was never his object in life. His impulse came not from the love of wandering, or of exploring, or of any of the natural sciences, but from an ardent desire to make known the tenets of Christianity, and by so doing help others to advance in civilisation. Everything else was for him only a means to this end; and all his long and adventurous journeys, all his geographical and scientific discoveries, were merely the wayside experiences and chance encounters of a life devoted to this more urgent and absorbing business. By birth he was a Scotsman and a Highlander; his family came from Ulva, the Isle of Wolves, one of that romantically beautiful group of islands which lies out to the westward of Mull like a flock of clouds in the sunset. David was the son of Niel, whose grandfather fell in the battle of Culloden, fighting for Prince Charlie, and whose father left Ulva and went to live at Blantyre, near Glasgow. Niel was himself a man of character, and a leader among his neighbours. He was from his youth a great reader, especially of religious books, and he learned Gaelic in order to read the Bible to his mother, who knew that language better than English. He belonged to a Missionary Society, and was so keen a member of it that he was said to have 'the very soul of a missionary.' It is clear that a good deal of his character was inherited by his second son, David, who was destined to display it in a far wider sphere.

David was born in 1813, and at the age of ten was sent to work in a factory. With part of his first week's wages he bought a book on the rudiments of Latin, and by attending an evening class he got far enough to be reading Virgil and Horace at sixteen.

When he was in his twentieth year he began to think seriously about religion, and chanced to read Dick's *Philo-*



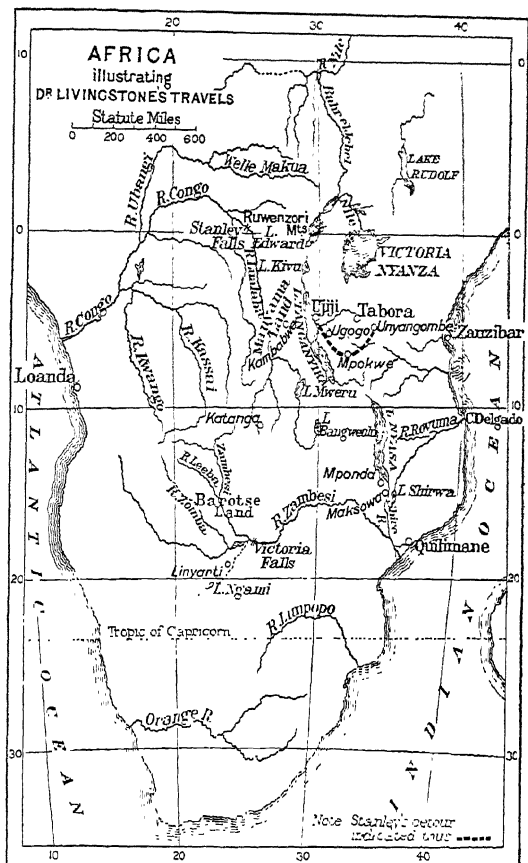
Dr David Livingstone.

(From Johnston's 'David Livingstone': Geo. Philip & Son, Ltd.)

sophy of a Future State. A year later he felt inspired to go out to China as a missionary. He applied accordingly to the London Missionary Society, but it was not found

possible to send him out at once. While waiting he studied medicine in London, and made the acquaintance of Professor Owen and other scientific men. Finally he was sent out to Africa to work in the mission at Kuruman in Bechuanaland. After two years he was authorised to form a new station; and during the next six years he actually founded the three stations of Mabotsa, Chonuané, and Kolobeng, and made some real friendships among the African chiefs.

In July 1849, while going north to visit a famous chief, Sebituane, he skirted the great Kalahari Desert, and discovered the beautiful river Zouga; then on August 1 he came to the head of Lake 'Ngami. This lake had never before been seen by any European, and both Sir James Alexander before him, and Francis Galton a year afterwards, failed to reach it. Exactly two years later Livingstone succeeded at last in visiting Sebituane, and pushed on as far as the town of Linyanti, beyond which on August 3, 1851, he discovered the Upper Zambesi river. These journeys were appreciated and rewarded by the Royal Geographical Society, but his success exposed him to serious criticism in other quarters—he was said to be 'sinking the missionary in the explorer.' This was an untrue charge; exploration was necessary in order to meet two great hindrances which hindered civilisation in the Africa of that day. One was the closing of certain territories by the Boers, who were then a wandering people; the other was the rapid development of the slave trade among the tribes. Livingstone was determined to combat both these influences; the Boers he foresaw would eventually find our civilisation too powerful for them—the time would come when they would no longer be able to kill Africans at will, on the plea that they had no souls. About the cruelty of the people of Africa to each other he felt more impatient, and he wrote home almost fiercely. 'The more intimately I become acquainted with barbarians the more disgusting does their conduct appear. It is inconceivably vile. . . . They never visit anywhere but for the purpose of plunder and oppression. They never go anywhere but with a club or spear in hand.' He was sickened and haunted by the sight of lines of slaves marching



Note.—Stanley's detour is indicated by a dotted line.

chained together, and of children being snatched from their mother's side to be sent to a distant market. Even the friendly chief Sekelétu suddenly one day in Livingstone's own presence ordered two traitors to be executed; they were hewn in pieces with axes before his eyes, and then thrown to the crocodiles.

Livingstone felt strongly that a forward policy was needed here; the only way to put an end to such horrors was to let daylight into the interior of Africa. He resolved to make a beginning by forcing his way through from Linyanti to Loanda; it might cost him his life, but he had 'fully made up his mind as to the path of duty.' To his brother-in-law, Robert Moffat, he wrote: 'I shall open up a path into the interior, or perish.'

QUESTIONS

1. What is roughly the position in Africa of Lake 'Ngami?
2. From the fact that Livingstone was breaking new ground to Europeans, could you infer that the Upper Zambesi, and Central Africa generally, was unknown to Europeans in 1857?

2. FROM LINYANTI TO LOANDA

Linyanti lies in latitude $18^{\circ}9'$ S. and to the north-east of Lake 'Ngami; Loanda is on the west coast in the Portuguese territory south of the Congo. The distance between the two is well over 1000 miles as the crow flies; by Livingstone's route it is nearer 1500, and had never before been traversed by any European. The journey took over six months, from November 11, 1853, to May 31, 1854, and was the most difficult and dangerous that he had yet attempted. The course of it was first up the Barotse valley, by which the Zambesi comes curving down from the north; this he navigated with a flotilla of thirty canoes, and then went on up its tributary the Leeba, which joins it from the north-west. When the upper waters of the Leeba were reached, the canoes were abandoned and Livingstone mounted his ox for the march across the high

ground to the N.N.W., finally turning due west and working down to Loanda, which lies on the sea level more than 3000 feet below.

In this long journey the points in the leader's favour were few, those against him many. The hundred and sixty 'Makalolo' or Barotse men who went with him were faithful and patient—'the best,' he says, 'that ever accompanied me'; but on the other hand they were easily cowed by more ferocious people whom they encountered. The scenery was for a great part of the way beautiful: the rich valleys reminded him of his native Vale of Clyde and other Scottish landscapes. But in the lower country he suffered from almost incessant attacks of fever, and in the latter stages of the journey from dysentery. Food was often scarce, and never suitable for a fever-stricken man. Worse still was the lack of proper drugs—the greater part of his supply of medicines was stolen at the start, and it was, of course, impossible to replace them. The disastrous effect of this loss cannot be over-estimated, for the leader was often desperately weak and depressed in body and mind at the very moment when the greatest courage and energy were demanded of him. Once, when he was shaking with fever, his riding-ox threw him and he fell heavily on to his head; another time, when he was crossing a river, the ox tossed him into the water; heavy rains drenched him continually, and there were always streams to be waded, sometimes three or four in one day. Then when he was feeling least able to deal with an enemy or take a decision some hostile chief would bar the way, exacting an exorbitant price for permission to travel across his little territory; and Livingstone must stand and argue with him, buying him off in the end with guns or oxen, which he could very ill spare, and hard put to it to save even his men, who were demanded of him for slaves. There is no need to enlarge on hardships like these, or to say anything of the courage and resoluteness of the man who could bear the whole burden of them alone, and carry his timid and ignorant followers through with him to the very end.

The journey began with a very cheering success; the expedition met a trader with eighteen captured men,

destined to slavery, and Livingstone boldly summoned him to set them free. It must have been quite evident that he had no intention of using any but moral force, but the man gave way and the eighteen prisoners were released. It is very remarkable to hear how the influence of this single white man, without arms or official backing, often prevailed over the feelings of the African chiefs, so that they not only let him pass unmolested, but supplied him with provisions. Some, on the other hand, blackmailed him ruthlessly. One day, after leaving the Zambesi, the expedition was in straits for food, and a riding-ox had to be killed. In accordance with custom, a share was sent to the local chief, but instead of being at all mollified by this, the chief sent an impudent message next day demanding much more valuable presents. His people crowded round Livingstone, threatening him with their weapons, and the end seemed to have come; but Livingstone's nerve held good, and he smiled and talked them into reason.

Some days after this, the same kind of opposition was met with, but it was more prolonged, and Livingstone suffered more, for he was ill of fever at the time. The expedition was passing through a tract of forest and expected to be attacked at any moment. When they came near to the chief's village Livingstone went fearlessly in, and spoke to the chief in person; the palaver seemed to be successful, and welcome presents were sent to the travellers' camp—yams, a goat, fowls, and other meat. Livingstone returned the compliment with a shawl and some bunches of beads, and thought that all was going well. In the excitement of the interview he even threw off his fever, or at any rate forgot it, but of course he paid for this afterwards with a great sense of sinking and 'perfect uselessness,' the more depressing to him because the day was Sunday, and he was unequal to carrying out his religious duties. On Monday, when he was at the lowest ebb, the chief turned round upon him and made fresh demands. It was, says Livingstone, 'a day of torture. . . . After talking nearly the whole day we gave the old chief an ox, but he would not take it, but another. I was grieved exceedingly to find that our people had become quite disheartened, and all resolved to return home. All I can say has no effect.

I can only look up to God to influence their minds, that the enterprise fail not now that we have reached the very threshold of the Portuguese settlements. I am greatly distressed at this change, for what else can be done for this miserable land I do not see.' This, however, was only a groan to himself in his Journal; outwardly he was still confident and tactful. By Wednesday morning he had persuaded both the old chief and his own men, and was on his way again.

The next two encounters were still more trying ones, for as the end of the march drew near, the stock of articles available for presents or blackmail was almost entirely exhausted. On the next Sunday but one after the crisis just recorded, another chief demanded tribute, and Livingstone having hardly anything left to bargain with fell back upon simple passive resistance. He told the chief that he might kill him if he chose, and God would judge between them. On Monday the chief gave way; for in that country the people believed in a Supreme Being and in the continued existence of the soul after death, though in a fashion of their own they imagined the dead man's spirit to be reincarnated in an alligator, a hippopotamus, or a lion. This belief was the cause of one of the few amusing incidents in a very trying journey. Livingstone had provided himself with a magic lantern, and used it during his sermons, to show pictures of Biblical scenes. He found this a very popular method, but the congregation refused to stand on one side of the camera—the side on which the slides were drawn out, and to which therefore the pictures seemed to move and disappear. They were terrified lest the figures, as they passed along, should enter into their bodies and take possession of them.

The last blackmailing crisis came on the following day—Tuesday. The expedition had reached the river Kwango, in Portuguese territory, when it was once more stopped, and in his eagerness to get through this last obstacle Livingstone was ready to give up everything he had left—his razors and shirts had gone and even the copper ornaments of his faithful Makalolo—and he had made up his mind, he says, to part with his blanket and coat, to buy a passage through. At the last moment a young

Portuguese sergeant named Cypriano de Abrao, suddenly made his appearance, and the difficulty was instantly at an end.

The outlying Portuguese stations were now at hand, and Livingstone was everywhere received with great kindness ; his wants were generously supplied, one Portuguese gentleman giving him a new suit of clothes and another the first wine he had ever tasted in Africa. The traders all assured him that they hated the slave trade, and even when he afterwards discovered that this profession of theirs did not exactly tally with the facts, he never ceased to be grateful for their genuine kindness to himself. It was only in his Journal that he allowed himself to express his doubts by marginal notes of interrogation.

He reached St Paul de Loanda, the end of his journey, on May 31, 1854, with the twenty-seven men who had accompanied him after the canoes were sent back. He was there laid low almost immediately by a long and distressing attack of fever and dysentery, and he had to endure the great disappointment of finding not a single letter waiting for him. He was himself a great letter-writer, and would in any case have felt this a privation ; but now it was also a cause of real anxiety, for it seemed clear that all his friends and even his own family must have given him up for lost. In this trying time he was most kindly cared for by Mr Edmund Gabriel, the British Commissioner for the suppression of the slave trade, who was naturally in full sympathy with his views on the welfare of Africa.

Under Mr Gabriel's care he gradually recovered his strength, and on September 24 he started on his return journey. This time his preparations were better made, and the difficulties were far less formidable ; but owing to sickness and delays the distance took nearly twice as long to cover. He reached Linyanti on September 11, 1855, stayed there till November 3, and then fulfilled his amazing enterprise by travelling the whole way across to the east coast, discovering the Victoria Falls of the Zambesi on his route. He reached Quilimane in Portuguese East Africa on May 20, 1856, having this time traversed the Continent from sea to sea.

He then started home, and arrived in England on

December 9, 1856, after an absence of more than sixteen years. His reception was a great one. The Royal Geographical Society had already in May 1855 voted him their Gold Medal, and his volume of *Missionary Travels* was now acclaimed by every one: travellers, geographers, zoologists, astronomers, missionaries, physicians, and mercantile directors all admired in him a man who had gained for them at first hand knowledge for which they might otherwise have waited long, and no one who loves courage and endurance could fail to be interested in a story so adventurous.

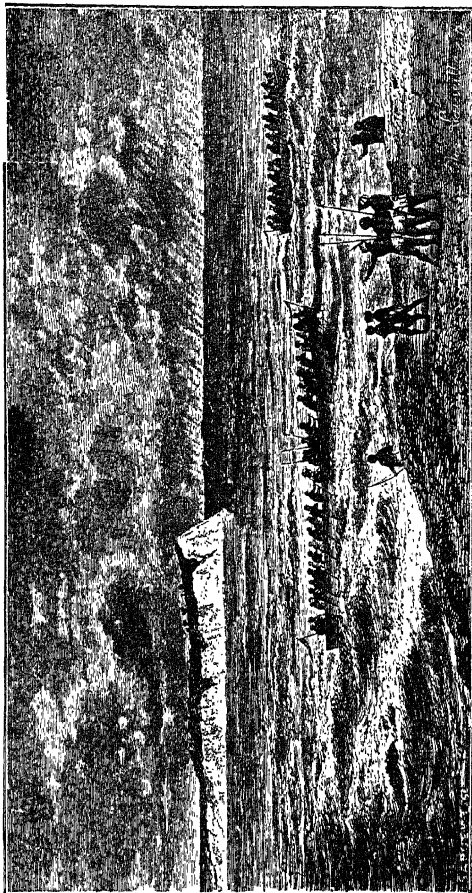
EXERCISE

Follow Livingstone's march on the map from Linyanti near the Chobe Swamp, N.E. of Lake 'Ngami, to the Victoria Falls, and thence to Quilimane. Note the town of Livingstone, near Victoria Falls, named after the explorer.

3. FIGHTING THE SLAVE TRADERS

In February 1858 Dr Livingstone was formally recognised as a public servant of the first importance in a line of his own; he was appointed British Consul at Quilimane for the eastern coast and the independent districts in the interior, and commander of an expedition for exploring Eastern and Central Africa. He sailed accordingly from Liverpool on March 10, taking with him his wife, and the sections of a steam launch named with her African name, the *Ma-Robert*, and intended for the navigation of the Zambesi. Mrs Livingstone was ill, and had to be put ashore at Capetown. Her husband reached the mouth of the Zambesi on May 14 and fitted the *Ma-Robert* together on May 16.

The task now before him can best be understood by a glance at the map. If a line is drawn from Loanda to Quilimane—the line of Livingstone's last journey—it will have to the south of it all that was then known of the interior of Africa South and Central, namely Cape Colony, Bechuanaland, the Transvaal, the two Portuguese territories on the west and east coasts, the two territories now named Northern and Southern Rhodesia, and the territory



Coasting along the shore of Lake Tanganyika.

(From 'Life of Livingstone'; Dean & Son, Ltd.)

for some years known as German South-West Africa. These had at any rate been opened up and their geography was fairly well ascertained. But to the north of Livingstone's line lay vast regions still quite unexplored: to the north-west the dense forests of the Congo; to the north-east a legendary land of great lakes, among which it was believed that the sources of the Nile might one day be found.

This latter region had already attracted British travellers. While Livingstone was in England, Captain Burton and Lieutenant Speke were sent out by the Foreign Office to survey the unknown Lake district of Equatorial Africa. They entered from the east coast and were successful in their attempt; they were the first Europeans to see Lake Tanganyika, which they reached in February 1858. Burton then fell ill, but by July he had roughly mapped out the country from Arab information, and during his disablement Speke went further north and found that the Ukerewe Lake, or Victoria Nyanza, was where Burton had placed it on his map.

This part then of the work of opening up Central Africa was already done, but between Tanganyika and Portuguese East Africa there still lay a large tract unexplored—the territory now called North-Eastern Rhodesia. It is a queerly shaped piece of country with a long tongue projecting down into the very middle of the Portuguese territory and extending to within 100 miles of the coast. Down this tongue the Shiré river runs to join the Zambesi, and after some delay Livingstone determined to use the Shiré as his highway to the north. The *Ma-Robert* turned out a great failure: her consumption of fuel was enormous, she snorted so horribly that she was called 'The Asthmatic,' and she went so slowly that canoes could easily pass her. Still she made in 1859 three trips up the Shiré, where no white man had been before. The people were war-like and suspicious; crowds of them followed the little steamer and kept watch over it day and night, ready with bows and poisoned arrows. Nevertheless Livingstone succeeded in establishing friendly relations with them.

On the second journey he made a detour to the east and discovered 'a magnificent inland lake' named Lake

Shirwa, which was absolutely unknown to the Portuguese. It was close to their boundary, but they had never been allowed to enter the Shiré country. 'The lake,' Livingstone wrote to his daughter Agnes, 'was very grand, for we could not see the end of it, though we were some way up a mountain; and all around it are mountains much higher than any you see in Scotland. One mountain stands in the lake, and people live on it. Another, called Zomba, is more than 6000 feet high, and people live on it too, for we could see their gardens on its top, which is larger than from Glasgow to Hamilton, or about 15 to 18 miles. . . . No one was impudent to us except some slave traders; but they became civil as soon as they learned we were English. We saw the sticks they employ for training anyone whom they have just bought. One is about 8 feet long: the head, or neck rather, is put into the space (at the forked end) and another slave carries the butt end. When they are considered tame they are allowed to go in chains. I am working in the hope that in the course of time this horrid system may cease.'

On the third journey, in August, Livingstone discovered Lake Nyassa, an immensely greater lake further to the north. The importance of the African lakes, and especially of Shirwa and Nyassa, lies in their position, parallel to the sea-coast. They form a long barrier through which traffic from the interior at that time passed by certain gaps to the coast. Livingstone made plans for the establishment of a British colony in this country, to be a centre of civilisation and block the slave-route.

Some two years later Mrs Livingstone died at Shupanga after a few days' illness. As soon as he could rally from this heavy blow Dr Livingstone put together a new steamer, the *Lady Nyassa*, and began to explore the Rovuma river, which runs from near the east side of Lake Nyassa to the sea at Cape Delgado. He was spurred on to almost desperate energy by the fact that his discoveries had actually stimulated the activity of the slave-hunters and slave-traders, under the protection of the Portuguese local authorities. This was 'opening up the country' in a disastrous sense, and a struggle began between Livingstone and the traders which ended for the time in his defeat.

The desolation caused by Marianno, the Portuguese slave-agent, was heart-breaking. Livingstone's boat steamed through the floating bodies of runaway slaves; in the morning the paddles had to be cleared of corpses caught by the floats during the night. When he landed he found even more terrible sights. 'Wherever we took a walk, human skeletons were seen in every direction. . . . A whole heap had been thrown down a slope behind a village, where the fugitives often crossed the river from the east, and in one hut of the same village no fewer than twenty drums had been collected, probably the ferryman's fees. Many had ended their misery under shady trees, others under projecting crags in the hills, while others lay in the huts with closed doors, which when opened disclosed the mouldering corpse with the poor rags round the loins, the skull fallen off the pillow, the little skeleton of the child, that had perished first, rolled up in a mat between two large skeletons. The sight of this desert, but eighteen months ago a well-peopled valley, now literally strewn with human bones, forced the conviction upon us that the destruction of human life in the Middle Passage (by sea), however great, constitutes but a small portion of the waste, and made us feel that unless the slave trade—that monster iniquity which has so long brooded over Africa—is put down, lawful commerce cannot be established.'

This was a moderate statement and a common-sense view, but it was not likely to commend itself to Marianno, or the local authorities who supported him, or to the Portuguese Government at home, who were restive at being remonstrated with by the British Government and wished to keep the rivers shut against Dr Livingstone and his like. In July 1863 a despatch arrived from Earl Russell, intimating to Livingstone that he and his expedition were recalled. The reasons given by Earl Russell were Treasury reasons. The expedition, he said, though not through any fault of Dr Livingstone's, had failed to accomplish the objects for which it had been designed, and had proved much more costly than was originally expected. The reasons not given, but probably felt quite as strongly, were Foreign Office reasons: relations with the Portuguese Government were becoming too uncomfortable; Dr Livingstone's

uncompromising and unconventional methods were perhaps inconsistent with the rights of a friendly power. Livingstone received his recall with calmness, so far as his own Government was concerned. But towards the Portuguese he felt very differently; on them lay a grave responsibility for stopping the work which would have conferred untold blessings on Africa. He resolved to go home for a few months, and then to look for a new route to the interior of Africa, beyond the reach of Marianno and his supporters.

QUESTIONS

1. In which latitude is Quilimane? May is a warm month in the northern hemisphere. What season would there be at Quilimane in May?
2. The S.E. Trade wind would blow in Quilimane in May. Does the S.E. Trade wind come from a cooler or a warmer latitude than Quilimane? Would it be a dry wind or a wet wind?
3. What kind of weather would the exploring party expect to find, going up the Zambesi, in May?

4. LOST TO THE WORLD

Livingstone went to England by way of Zanzibar and Bombay, making a stay of only a few days in India, and reaching London in July 1864. He spent a full year in England, and left again in August 1865 to make his third and last great African journey. His object, as stated by himself, was as follows: 'Our Government have supported the proposal of the Royal Geographical Society and have united with that body to aid me in another attempt to open Africa to civilising influences. I propose to go inland, north of the territory which the Portuguese in Europe claim, and endeavour to commence that system on the east which has been so successful on the west coast—combining the repressive efforts of Her Majesty's cruisers with lawful trade and Christian Missions. I hope to ascend the Rovuma, or some other river north of Cape Delgado, and in addition to my other work, shall strive, by passing along the northern end of Lake Nyassa and round the southern end of Lake Tanganyika, to ascend the watershed of that part of Africa.' The first part of this scheme was his own, the

second he had been urged to undertake by the Royal Geographical Society. He was once more given the honorary position of Consul, but the funds provided were inadequate.

His outward journey was again by Bombay and Zanzibar, and on March 19, 1866, he left Zanzibar in H.M.S. *Penguin* for the mouth of the Rovuma. His company consisted of thirteen Sepoys, ten Johanna men, nine Nassick boys, two Shupanga men, and two Waiyau. Musa, one of the Johanna men, had been a sailor in the *Lady Nyassa*; Susi and Amoda, the Shupanga men, had been wood-cutters for another boat, the *Pioneer*; and the two Waiyau lads, Wikatani and Chuma, had been slaves, rescued in 1861 by Livingstone and kept at the mission station. Besides these there were six camels, three buffaloes and a calf, two mules and four donkeys; these were all brought from India as an experiment, to see if they could resist the bite of the tsetse-fly, and so solve one of the problems of Africa.

Livingstone had not one white companion with him on this long and formidable journey into the unknown, but he started in good spirits. He gives two reasons for this, and they almost sum up the man. 'The mere animal pleasure of travelling in a wild unexplored country is very great. . . . The sweat of one's brow is no longer a curse when one works for God: it proves a tonic to the system, and is actually a blessing.'

But in a very short time troubles began which cost him something more than the sweat of his brow. He reached Nyassa on August 8, bathed in the lake, and felt quite exhilarated. By the 28th he was writing to his son Thomas: 'The Sepoys were unfit for travel, and then we had hard lines, all of us. Food was not to be had for love or money. Our finest cloths only brought miserable morsels of common grain. I trudged it the whole way, and having no animal food save what turtle-doves and guinea-fowls we occasionally shot, I became like one of Pharaoh's lean kine.' Most of the Sepoys had to be sent back to the coast: they and the Nassick boys treated the transport animals abominably. The Johanna men were always stealing. The horrible traces of the slave trade were seen in every direction:

women were found dead, tied to trees, or lying in the path shot and stabbed, merely for being unable to keep up with the march of the slave gang ; men were found dying with the slave sticks still on their necks.

As a climax to all this came the strike of the Johanna men. Musa, one of the chief of them, was spoken to at Marenga's village in September by an Arab slaver, who told him that the country ahead was full of men of the warlike tribe of the Mazitu ; that they had recently killed forty-four Arabs and their followers at Kasunga, and he alone had escaped. At this Musa was panic-stricken ; both Marenga and Livingstone assured him that the expedition was not going anywhere near the Mazitu, but he and all the other Johanna men were determined to go back to Zanzibar, and they went. Their action had extraordinary consequences. In order to get their pay at Zanzibar, when they arrived there in December, they had to give a plausible reason for coming back ; obviously the most suitable story was that their leader was no longer alive. Musa therefore stated positively that Livingstone had been murdered ; that he had crossed Lake Nyassa to its western or north-western shore and was pushing on, when beyond the villages of Matarka, Maconda, Marenga, and Maksowa, a band of savages stopped the way and rushed upon the party. Livingstone, he said, fired twice and killed two, but while he was reloading three men rushed upon him through the smoke, one of whom felled him with an axe stroke from behind, which nearly severed his head from his body. The Johanna men fled into the jungle, but afterwards returned, found their master's body, and buried it in a shallow grave dug with stakes.

Dr Seward and Dr Kirk of Zanzibar cross-examined Musa upon this story, but in the end they were convinced, and sent a letter to the Royal Geographical Society announcing his death.

To the present generation it will not be easy to understand the excitement caused by this letter when it reached England early in 1867. Dr Livingstone held much the same position with his fellow-countrymen that General Gordon was to fill twenty-five years later ; to perhaps three in four of them he was an almost legendary hero, to the

rest a rather troublesome fanatic ; but none would have denied that whatever he was, he was certainly the most famous man then living in the British Empire. His adventures were as well known as the stories in the Bible, and the news of his death touched the pulse of millions. Opinion was sharply divided over it ; Kirk's letter seemed conclusive to the majority, but there was an unconvinced minority, and among them were those who were best qualified to judge. Mr Edward Young, who had travelled with Livingstone in 1862, had seen something of Musa and knew him for a liar ; Mr Horace Waller and Sir Roderick Murchison also disbelieved his story. So while ' the country resounded with lamentations and the newspapers were full of obituary notices,' the Royal Geographical Society organised a search expedition and gave Mr Young the command of it.

He sailed on June 9, 1867, with three companions—Mr Faulkner, John Reid, and Patrick Buckley ; they were in the mouth of the Zambesi by July 25, and quickly launched a steel boat named the *Search* and some smaller boats. With these they went swiftly up the Zambesi and Shiré, passed the Murchison cataracts by taking the *Search* to pieces and carrying it overland, then putting it together again above, without a hitch or a missing screw. They reached the south end of Lake Nyassa, and were there driven by a gale into a small bay. This was an almost incredible stroke of good fortune, for in this bay they came quite unexpectedly upon a man who told them that a white man had been there towards the end of the previous year ; and by his description this man was certainly Livingstone. The expedition had crossed then, not by the northern but the southern end of the lake ; Musa had given false evidence on this point, and he might well be false on the rest.

This was encouraging but not conclusive, and Mr Young decided to search at an Arab crossing-place twenty miles further up. He did so, and fell in with a large party of fishermen, who had received presents from Livingstone, and recognised his photograph among a number of others. Others at the crossing-place told him that Livingstone had tried to cross there, but had failed to get boats and had

gone south. Mr Young then went to Marenga, the point at which the Johanna men had turned back, and there the chief Marenga told how he himself had ferried Livingstone, who was a friend of his, across a small inlet of the lake. At Maksowa, two days further on, a number of men were found who had been employed by Livingstone to carry his baggage twenty miles towards the north. Finally, at Maconda, the chief's mother assured Mr Young that Livingstone had passed through there, and that some of his party had afterwards returned that way. All this evidence pointed to what was indeed the fact, that Livingstone had passed safely through the most dangerous section of his journey and gone on his way north, after being deserted by the cowardly Johanna men. The search expedition therefore turned back, and reached England with the welcome news. Their success was finally confirmed when letters were received in London from Livingstone himself, dated from a district far beyond the place where he was said to have been murdered. In reply, an account was sent off to inform Livingstone of the Young expedition and its return. The letter reached him exactly three years after its dispatch, and nothing could show more convincingly that Livingstone was now almost lost to the world of civilisation.

Two and a half years passed, and then towards the end of 1869 another letter got through from Livingstone. It was dated May 13, 1869, from Ujiji on the north-east shore of Lake Tanganyika, the advanced base to which he had ordered stores and letters to be sent. He had arrived there on March 14, after discovering Lake Bangweolo on the way; but the supplies he was expecting had been delayed or dispersed by a war which was raging on the lines of communication from the coast. Four months later his daughter Agnes heard from him that he was exploring the Manyema country to the west of Tanganyika.

Another long silence followed; then in January 1871 came a letter dated September 1870 and written on a leaf of his cheque-book, all his notepaper being used up. He was then at Bambarré, on the way to the River Lualaba, where floods and lame feet kept him shut up for over seven months. 'My chronometers are all dead,' he writes. 'I



Country near Lake Tanganyika.
(From 'The Life of Livingstone'; Dean & Son, Ltd.)

hope my old watch was sent to Zanzibar ; but I have got no letters for years, save some, three years old, at Ujiji. I have an intense and sore longing to finish and retire, and trust that the Almighty may permit me to go home.' In another letter to his daughter Agnes he wrote at this time : ' I felt all along sure that all my friends would wish me to make a complete work of it, and in that wish, in spite of every difficulty, I cordially joined. I hope to present to my young countrymen an example of manly perseverance. I shall not hide from you that I am made by it very old and shaky, my cheeks fallen in, space round the eyes, ditto ; mouth almost toothless—a few teeth that remain, out of their line, so that a smile is that of a he-hippopotamus.'

These letters were the last received, and they were not such as to reassure anyone. It was now more than five years since Livingstone had started on his journey, and all that was known of him was that at a date long past he was lying in a hut dead lame, with only three followers and no stores, at a distance of forty-five days' march from Ujiji, which was itself almost out of reach from England. Dismay fell upon his friends throughout the English-speaking world. Meanwhile the undefeated traveller, ill and lame, was up again and turning homeward. On July 20, 1871, he started on his 600-mile tramp back to Ujiji ; he reached it on October 23, a living skeleton.

The cargo of merchandise which should have been there had indeed arrived, but the Arab Shereef, to whom it had been consigned, had sold the whole—3000 yards of calico and 700 lb. of beads, with which men were to have been hired for the journey to the coast. Shereef came, without shame, to salute Livingstone ; he said he had divined on the Koran, and found that the owner of the goods was dead and would not need them. Livingstone was not dead, but he was a beggar in a strange land, very far from home.

The most astounding reversal of fortune was awaiting him. Five days later a noise of guns and shouting was heard outside Ujiji ; the crowd rushed out, with all the Arab dignitaries among them ; a servant came running back to tell Livingstone that ' an Englishman was coming.' Livingstone walked out from his house, and in a few minutes in the sight of all Ujiji he was standing under the American

flag shaking hands with Henry Morton Stanley, of whom he had never heard in his life.

EXERCISE

The following places are mentioned in the text as being visited by Dr Livingstone:—Nyassa, Ujiji, Lake Bangweolo, Manyuema, country west of Lake Tanganyika, Lualaba river. Study a map of the country scientifically explored for the first time by Dr Livingstone during this journey (about 1870).

III. HENRY STANLEY

I. THE MEANING OF A NAME

Who was Henry Morton Stanley, this young journalist who had come in the nick of time into Ujiji with his American flag, his Winchester rifles, and his invaluable stores? What the man was could be easily seen: 'Short of stature, lean and wiry, with a brown face, a strong chin, and round lion-like eyes, watchful and kindly, that yet glowed with a hidden fire; he was a strong and attractive personality.' But Livingstone, as he sat and talked with him in the verandah that afternoon must have been wondering not only how he came to be there—that, no doubt, was soon told—but who he was, and by what course of life he had been trained for his astonishing achievement. Probably the questions remained unasked or unanswered, for the two travellers had the whole history of Europe, Asia, Africa, and America for the last four years to talk about.

There are many lives of men of British birth which show how a boy may grow from very humble or disadvantageous beginnings to success, fame, and even to greatness. But the career of Henry Stanley stands out among them all for sheer romance.

Henry Stanley was born in 1841, and named John after his father John Rowlands, the son of an elder John Rowlands, a Welsh farmer in the Vale of Clwyd. His mother, Elizabeth, was the youngest daughter of another prosperous

farmer at Plâs Bigot in the same valley ; but both families had losses and came down in the world. Young John's father died when the boy was only a few weeks old, and he was brought up until he was fifteen years old in the St Asaph Union Workhouse, under a terrific master named Francis, who flogged him till he was old enough and strong enough to run away. He decided to go to sea, and sailed for New Orleans as cabin boy in the packet ship *Windermere*, under a rascally American skipper with two fiendish mates. All the way across he and the other boys were bullied and thrashed, with the deliberate object of making them run away when the ship reached America, and so forfeit their pay. John was duly informed of this trick by his companions, but he preferred his liberty to his money, and when the *Windermere* lay off the quay at New Orleans he slipped overboard in the dark and hid himself in the shadow of a pile of cotton bales.

At daybreak he dusted himself and stole off into the town, looking for any chance of work. In Tchapitoulas Street he found one of the greatest chances that fortune ever offered to a boy. In front of No. 3 Store he saw a gentleman of middle age in a tall hat and dark alpaca suit, tilting his chair back against the frame of the door and leisurely reading a newspaper. John liked his face, and spoke to him. 'Do you want a boy, sir?'

'A boy,' replied the gentleman slowly. 'No, I do not think I want one. What should I want a boy for? Where do you hail from? You are not an American.'

John told his story. 'So—you are friendless in a strange land, eh?—and want work, to begin making your fortune, eh? Well, what work can you do? Can you read? What book is that in your pocket?'

And so the conversation went on: it was exactly characteristic of both of them, and they took to each other on the spot. The gentleman in alpaca was not the owner of the store, but he had no difficulty in procuring a place there for John at once. His name was *Henry Morton Stanley*—a well-to-do man with a good wife, but lacking one great thing in life, a son to bear his name after him.

Of this, however, he was probably not at the moment conscious, and John, of course, knew nothing about it. He

only realised that he was a free man from this time onwards with a chance in the world. He wrote afterwards, 'There have been several memorable occasions in my life; but among them, this first initial stage towards dignity and independence must ever be prominent. . . . I soon became sensible of a kindling elation of spirit.' In a word, he was kindly treated and appreciated, being estimated solely by his individual character, without regard to his age, his wealth, or poverty, his humble or illustrious origin.

He was now a 'junior clerk' with a salary, and he spent money on books—a remarkable selection. First Gibbon's *Decline and Fall* in four volumes, because it had associations with his old school days. Then Spenser's *Faerie Queene*, Tasso's *Jerusalem Delivered*, Pope's *Iliad*, and Dryden's *Odyssey*; *Paradise Lost*, *Plutarch's Lives*, *Simplicius on Epictetus*, and a big *History of the United States*, in order to know the past of his new country. For the right boy, these are the right books; and when he had them in the book-case he made for himself, he says, 'I do believe my senses contained as much delight as they were able to endure without making me extravagant in behaviour.'

He was, in fact, thoroughly alive, and besides enjoying himself gave complete satisfaction to his employers. Mr and Mrs Stanley were good friends to him; he spent every Sunday with them, and Mr Stanley not only recommended fresh books to him but sent him an instalment of a dozen, including the works of Shakespeare, Ben Jonson, Goldsmith, Cowper, Byron, and Washington Irving. With these, and Mr Stanley's conversation, and his daily work, John was getting a first-rate education.

When he was eighteen his fortune changed, or seemed to change. In her husband's absence, Mrs Stanley fell seriously ill. John could not leave her house, for he was useful there as night watch. He asked his employers for a few days' leave; they were annoyed and told him he might stay away for good. Mrs Stanley died three days later, and her brother-in-law, Captain Stanley, who took charge of everything, frankly told John that he was no longer needed. John, utterly forlorn, went to sea again.

This time his captain was a kind old man, who advised him not to be downhearted: 'If you will have patience, and continue in well-doing, your future will be better than you dream of.' He sent him off, with a small sum of money, to look for Mr Stanley at St Louis. John found on inquiry that his friend had now gone back to New Orleans; he worked his passage there on a lumber boat, pulling a huge oar, peeling potatoes, and scouring plates for the crew—anything to get there. At the end of a month he got there.

The result was decisive; he found Mr Stanley at once. 'His reception of me,' he says, 'was so paternal that the prodigal son could not have been more delighted.' Then, as they talked, John heard words that he could hardly realise; a peculiar sensation came over him and held him 'spell-bound and thrilled to the soul.' Mr Stanley had heard on his return all about John's dismissal and the cause of it. He adopted John as his own son, and John Rowlands took his adopted father's name, Henry Morton Stanley.

For some time his education proceeded in the old way, and more happily than ever. Then in 1860 a Southern planter offered young Henry an opening for a store in Saline County, Arkansas. In that most unhealthy valley he spent a few miserable months, when the Civil War broke out, and the whole country of the South was thrown into the utmost confusion. In the midst of this, Mr Stanley died suddenly, and young Henry was so cut off by the blockade of New Orleans that he only received the news long afterwards. The war fever mounted high meanwhile, and Henry was persuaded without much difficulty to enlist on the side of the Southerners, among whom he had been living since he became an American. But he did not like war: he speaks of his enlistment as the first of many blunders, which precipitated him into a furnace, hardening but painful to the moral sense. Still, being the man he was, he endured and fought as well as anyone, and his experiences make a vivid story; but it was not an unlucky day for him when at Shiloh, the greatest battle of the war, he was taken prisoner and sent north to be interned at Camp Douglas. After two months there in the most

appalling sanitary conditions, he was induced to enrol in the U.S. Artillery, but within three days went down with dysentery and low fever. A fortnight later he was discharged from the service, a wreck. He returned to Wales, to see his home and relatives.

'I made my way,' he writes, 'to Denbigh, to my mother's house. With what pride I knocked at the door, buoyed up by a hope of being able to show what manliness I had acquired, not unwilling, perhaps, to magnify what I meant to become. . . . I was told that I was a disgrace to them in the eyes of their neighbours, and they desired me to leave as speedily as possible.'

2. THE ADVENTURES OF A JOURNALIST

Throughout 1863 and the early part of 1864 he was in the merchant service, sailing to the West Indies, Spain, and Italy; then he served for a few months in the U.S. Navy. In 1865 he came ashore and travelled about America, from Missouri across the Plains, to Salt Lake City, Denver, Black Hawk, Omaha, and Boston, doing newspaper work, and leaning more and more towards journalism as a profession. In July 1866 he sailed from Boston for Smyrna as a newspaper correspondent, in company with a friend. They ventured into the wilder districts of Turkey, where they were robbed and beaten, arrested as malefactors, and only just saved from death.

On his return from this spirited but unfortunate venture Stanley made his 'first entry into journalistic life' at St Louis. In 1867 he went on campaign in the bloodless Indian War; in 1868 he was sent by the *New York Herald*—a very enterprising paper—to accompany the march of the British Army into Abyssinia, and he succeeded in getting a despatch through to London with the earliest news of the overthrow of King Theodore at Magdala. He then visited the Suez Canal, which was approaching completion, Crete, Athens, Rhodes, Beyrout, and Alexandria, and so to Spain, where he received a summons from the *Herald's* agent to come at once to London.

The most enterprising newspaper in the world had had a new idea. It was rumoured that Dr Livingstone was on his way home from Central Africa, where for years he had been almost beyond touch with Europe. The new idea was that by going to Aden, or perhaps to Zanzibar, Stanley might meet him and get the first account of his adventures. Stanley was, as usual, ready to go anywhere at a word : by November 21 he was at Aden. But the rumours turned out to be entirely without foundation : as we have already seen, Livingstone was at this time literally years away. In March 1869 Stanley came back to London. He was sent immediately to report the Revolutionary War in Spain ; but after six months crowded with exciting scenes and journalistic feats he was once more recalled, this time to Paris, to meet Mr James G. Bennett, the proprietor of the *Herald*.

This extraordinary man had planned for Stanley an extraordinary programme. He had realised that here was a traveller of inexhaustible energy, a correspondent of great journalistic ability, and a man of original character ; he determined to give these qualities the widest field and the most abundant resources. Stanley was to report on the opening of the Suez Canal, on Baker's Expedition to Upper Egypt, the underground explorations in Jerusalem, Turkish politics, archæological digging in the Crimea, the political situation of the Caucasus, and the affairs of Trans-Caspia, Persia, and India ; finally, as a climax to all this, he was to return to Africa, not merely to meet Livingstone, as he had hoped to do before, but to search for him, find him, and rescue him.

This amazing list of agenda was actually carried out. In less than a year Stanley had marked off in turn every item but the last, and by August 1870 he was leaving Bombay : on December 31, he reached Zanzibar, fifteen months after receiving his first commission for this journey. The outlook, however, was not encouraging : during those fifteen months not a word of news about Livingstone had reached Zanzibar ; no letters or instructions from the *Herald* were waiting there ; no money for expenses. About 80 dollars was all that Stanley had to provide him with an army and its transport.

But the American Consul supplied a sum sufficient for the present, and the expedition was immediately formed. When ready, on March 21, 1871, it consisted of three white men, 31 armed Zanzibaris as escort, 153 porters and 27 pack animals for transport, with two riding-horses: carrying, of course, many bales of cloth, beads, wire, provisions and medical stores, and also, as Stanley himself specially remarks, a great many newspapers and a Bible. The point of this is, that during the frequent fevers with which his journey began, he spent time constantly on both these kinds of reading, and his views about them were entirely recast. 'It appeared to me that the reading of anything in the newspapers, except that for which they were intended, namely news, was a waste of time, and deteriorative of native force, and worth, and personality. The Bible, however, with its noble and simple language I continued to read with a higher and truer understanding than I had ever before conceived. . . . The one reminded me that, apart from God, my life was but a bubble of air, and it bade me remember my Creator: the other fostered arrogance and worldliness.' He admits that some of the newspapers he read were uncommonly poor specimens of journalism; but he is clear that from this time newspaper opinion lost for ever the power which it once had, of governing, and perhaps perverting, his own views.

Early in May the expedition began to ascend the Usagara range, and in eight marches reached Ugogo, 'inhabited by a bumptious, full-chested, square-shouldered people, who exact heavy tribute from all caravans.' Nine marches more took Stanley through their territory, and into Unyamwezi, or the Land of the Moon, the home of a turbulent and combative race. Here, at Unyanyembe, there was a colony of Arab traders: they were always scouring the country for ivory, but they had no information about Livingstone. He was of course known to have been some time before at Ujiji, on Lake Tanganyika; but he might now be in Manyuema, or on the Congo, making for the West Coast, or forcing his way north in search of the Nile. It was Stanley's intention to go straight for Ujiji, after a rest of some ten days at Unyanyembe, where he arrived in June 23.

But here occurred an interruption which might have been disastrous. On July 6, news came that Mirambo, a chief of Unyamwezi, had blackmailed and turned back a caravan bound for Ujiji, declaring that no Arab caravan should pass through his country while he was alive. His real reason was that he had a long grudge against another king, with whom the Arabs lived on extremely friendly terms : and being himself a scoundrel he had proposed to the Arabs that they should make an alliance with him and betray their friend. The Arabs replied that they could not possibly abandon a friend who lived at peace with them.

War was declared on July 15, and this put Stanley in a very awkward position. Mirambo occupied the country which lay between where the expedition now was and where it was hoping to find Livingstone. It could not go forward until one side or the other was defeated and peace was made. Stanley might sit down and wait, or he might join in the war and help to end it earlier. Mirambo was a militarist and an autocrat : if he were successful he would probably make it impossible for anyone to return from Ujiji to Unyanyembe. On the other hand, all would be easy for the expedition if the Arabs won : they had plenty of guns, and Stanley thought he could give them material assistance. He therefore decided to make war on Mirambo.

On July 20 a force of 2000 men—the soldiers and slaves of the Arabs—marched from Unyanyembe to fight Mirambo. With them went also the soldiers of the *Herald* Expedition, to the number of forty, with Stanley at their head, and the American flag flying over them. The show was a very imposing one : all the slaves and soldiers were decorated with crowns of feathers, and had long crimson cloaks flowing from their shoulders and trailing on the ground. They were armed, some with percussion guns, some with matchlocks, profusely decorated with silver bands, and they made a tremendous amount of noise as they advanced across the plains, with an extravagant exhibition of sham fighting.

On the second day they reached Mfuto and feasted freely on meat slaughtered for the braves. Stanley went down with fever ; but he had himself carried in his hammock when the march went on again. On the fourth day the enemy's country was reached and the village of Zimbizo

was captured. On the fifth day a detachment went out to reconnoitre, caught a spy, and beheaded him on the spot. This success elated the Arabs and brought them to grief. Some five hundred of them volunteered to go on and capture Wilyankurn, where Mirambo was just then with several of his principal chiefs. Stanley suggested that they should line out and fire the long grass before they advanced, so as to rout out the enemy's skirmishers and spies, and have a clear field of action. But 'an Arab will never take advice': they arrived before Wilyankurn without taking any precautions, fired a few volleys into the village, and then charged.

Mirambo was a clever fighter. When his enemies rushed the gate of the village, he slipped out of another gate, with his 400 fighting men, took them round the outside of the village, and placed them in ambush close to the road by which the attack had been made. When the Arabs returned they were to rise at a signal from him, and each to stab his man.

The Arabs meanwhile took the place without opposition. They might have been put on their guard by the total absence of Mirambo and his troops, but they were too much occupied with the ivory and slaves which they found abandoned. They loaded themselves with booty and moved out to return by the way they came. Their march did not last long: Mirambo gave his signal, his followers rose instantly, speared each his man, and decapitated him too. Not an Arab survived, but some of the slaves escaped and ran with the news to Zimbizo.

The loss was serious, but the panic was out of all proportion. At first Stanley and the soldier Khamis-bin-Abdullah stopped the cry for a retreat, but next morning, as Stanley lay shivering with fever, he heard a great noise and confusion: he looked out and saw the whole force running away, with the Governor himself mounting his donkey to get ahead of them.

Fever or no fever, Stanley had to bestir himself. He got up and looked about him: his men had all lost their heads, and even Khamis-bin-Abdullah was about to bolt. Stanley collected a small band—Shaw, the sick Englishman, Selim, the Arab boy, Bombay, the Indian servant, and three others. These seven reached Mfuto at midnight,

and next day an attempt was made to rally the Arabs, but they had become demoralised, and left even their tents and ammunition to the enemy. Ten days afterwards Mirambo was camping within view of the Arab capital, Tabora, with 1000 guns and 15,000 allies of the Watuta tribe.

A second disaster quickly followed. Khamis-bin-Abdullah, the bravest of all the Arabs, went out to attack Mirambo with eighty armed slaves and five Arabs, one of whom was his own young son Khamis. It was a forlorn hope, and the slaves knew it. As soon as they saw the enemy they ran for their lives: Mirambo's men surrounded the half-dozen Arabs and poured their whole available fire into them. Their medicine-men then hurried up and extracted a powerful concoction from the bodies of the slain, which was drunk that night with great ceremony, 'dances, drum-beating, and general fervour of heart.'

The Arabs, panic-stricken again, now began pouring out of Tabora into Stanley's headquarters in the neighbouring valley of Kwihara. An attack seemed probable, so the place was at once loopholed for defence, trenches and rifle-pits were dug, pots filled with water, provisions collected, watchmen posted, ammunition boxes unscrewed, and the American flag hoisted on a high bamboo over the roof. Stanley's spirits rose: if Mirambo would only attack, the war might be over in a few hours. All night the garrison stood to arms, but they saw only the flames which were consuming the suburbs of Tabora. When morning came Mirambo departed with the cattle and ivory he had captured. The road to Ujiji was more completely closed than ever.

QUESTIONS

1. In which part of the United States are: Salt Lake City, Omaha, St Louis, and Boston?
2. Where are the cities of Symrna, Beyrout (Beirut), Athens, Alexandria, and the country of Abyssinia?
3. Look at a map containing the Black Sea and find out where Stanley went when he was sent to the Crimea, the Caucasus Mountains, Trans-Caspia (*i.e.* between the Caspian and Black Seas), Persia, and India.
4. Look at a map of East Africa and consider the journey involved in finding Dr Livingstone from Zanzibar. Locate the town of Tabora. Is it in a direct line with Zanzibar and Ujiji?

3. THE FINDING OF LIVINGSTONE

Stanley was now in what might well have seemed to him a desperate position: he had lost five of his little force, his allies were totally defeated, his enemy lay across his path in overwhelming strength: he and his only white companions were ill. But these considerations weighed literally nothing with him—they were not considerations at all, so long as Livingstone was still to be found. He set to work at once to reorganise his expedition. It took him three months, and in spite of the death of one of his white men, the desertion of forty carriers, and the loss by disease of all his transport animals but two, he found himself in September at the head of nearly sixty picked men, almost all well armed, and well supplied with all stores.

The conclusion at which he had arrived was that if he could not go through Mirambo's country he might march round it. 'A flank march might be made, sufficiently distant from the disturbed territory and sufficiently long to enable me to strike west and make another attempt to reach the Arab colony on Lake Tanganyika.' This was not so easy as it looks on paper: it meant from 200 to 300 miles extra marching, and for the first part of the route he would be exposed to a flank attack by Mirambo if the mighty war-lord chose to pursue his advantage in that way. The road may be traced on the map by drawing first a line 150 miles long from Unyanyembe, going south by west, then 150 miles W.N.W., then 90 miles north half-east, then 70 miles west by north; and it must be remembered that a day's march would only average between 10 and 12 miles.

The expedition left Unyanyembe on September 23, and for twenty-two days travelled south-west, covering about 240 miles. Troubles began at once: carriers bolted and had to be brought back and flogged; Shaw, the Englishman, broke down finally and had to be sent home; a mutiny was only put down by the strong hand, and food at times was uncomfortably scarce. But Mirambo was safely circumvented; at Mpokwa, which is ten days' march from his capital, Stanley felt that he could venture to turn westward, and 35 miles farther on he prolonged his

turn to a more northerly line. At the 105th mile of this northerly journey he came to the ferry over the Malagarazi river, and knew that he was comfortably on the far side of Mirambo, who by this time lay eight days' march to the east. He could now march direct for the lake, leaving his enemy further behind at every mile.

At the Malagarazi he met a caravan and heard news which startled the whole expedition into excitement. The caravan men, who were natives of West Tanganyika, stated that a white man had reached Ujiji from Manyema, a few hundred miles west of the lake. It is easy to imagine the intense anxiety with which Stanley tried to test their story. Very few of his men could speak the language of the informants, and both questions and answers had to be brief and blunt: but the evidence was clear and positive that the stranger was elderly, grey-bearded, white, wearing clothes somewhat like Stanley's own; that he had been at Ujiji before, but had been absent for years in the western country and had only returned the day the caravan left, or the day before.

Of course he might be Livingstone; but could he be anyone else? Sir Samuel Baker was known to be in Central Africa at this moment; but he was not grey-bearded when last seen. A traveller might have arrived from the West Coast—Englishmen had not been doing much on that side, and this might be a Portuguese, a German, or a Frenchman—but then no one of these nations had ever been heard of in connection with Ujiji. Stanley dismissed his doubts; his reason and his instinct told him that this was Livingstone, and that all he had to do was to press forward.

He crossed the river, and entered the country of the factious and warlike tribe, the Wahha. Here he was immediately summoned to halt, and to pay an amount of tribute which would have beggared the expedition. After long hours of haggling he got off with a smaller sum, but the next day he was halted again and made to pay two more bales of cloth, with the assurance that this was really the last demand. Nevertheless the same game of extortion was played next day for the third time. Stanley would tolerate this no longer; he had two more marches to make

in the territory of these thieves, and he meant to make them without payment. He laid in four days' provisions, woke his people at midnight, made them pack and steal away in twos and threes, leaving the road and marching over the open plain. In this way they got clear away unperceived, and in eighteen hours crossed the boundary from Uhha into Ukaranga.

It was now 235 days since Stanley had left the Indian Ocean, and fifty since he had started from Unyanyembe : only six hours' march lay between him and his goal. The expedition set out next morning in the cool twilight of the forest dawn, and by eight o'clock they were climbing a steep wooded hill. They reached the crest, and there saw, 'as in a painted picture, a vast lake in the distance below, with its face luminous as a mirror, set in a frame of dimly blue mountains.' It was Tanganyika at last, and the thought of a rest from their labours filled the whole company with boisterous good humour. The caravan plunged gaily down the descent, rolled over a few intervening slopes and cane brakes, and about noon came to the summit of the last ridge. The lake was there within half a mile of them.

Stanley describes it like a man in a dream. 'I look enraptured,' he writes in his Autobiography, 'upon the magnificent expanse of water, and the white-tipped billows of the inland sea. I see the sun and the clear white sky reflected a million million times upon the dancing waves. I hear the sounding surge on the pebbled shore ; I see its crispy edge curling over and creeping up the land, to return again to the watery hollows below. I see canoes, far away from the shore lazily rocking on the undulating face of the lake. Hard by the shore, embowered in palms, on this hot noon the village of Ujiji broods drowsily. No living thing can be seen moving to break the stilly aspect of the outer lines of the town and its deep shades.'

This siesta must be broken : in accordance with the ancient custom of the country, the caravan's guns must give notice of its approach. The men were collected, dressed in clean clothes and snowy headgear, and with a tremendous noise of firing they marched down the hill.

A tumultuous stir became visible on the outer edge of the town. Groups of men in white, with arms in hand,

burst from the shades, hesitated a moment, and then came rushing to meet the travellers. The foremost cried, 'Why, we took you for Mirambo and his bandits—it is an age since a caravan has come to Ujiji. Which way did you come? Ah! you have a white man with you—is this his caravan?'

The crowd came pressing round Stanley, salaaming to him and jostling each other. He was about to ask whether it was true that there was a white man in Ujiji, when a tall black man in a white shirt burst through the crowd and said with a bow, 'Good morning, sir,' adding, 'I am Susi, sir, the servant of Dr Livingstone.'

'What! Is Dr Livingstone here, in this town?'

'Yes, sir.'

'But are you sure—sure that it is Dr Livingstone?'

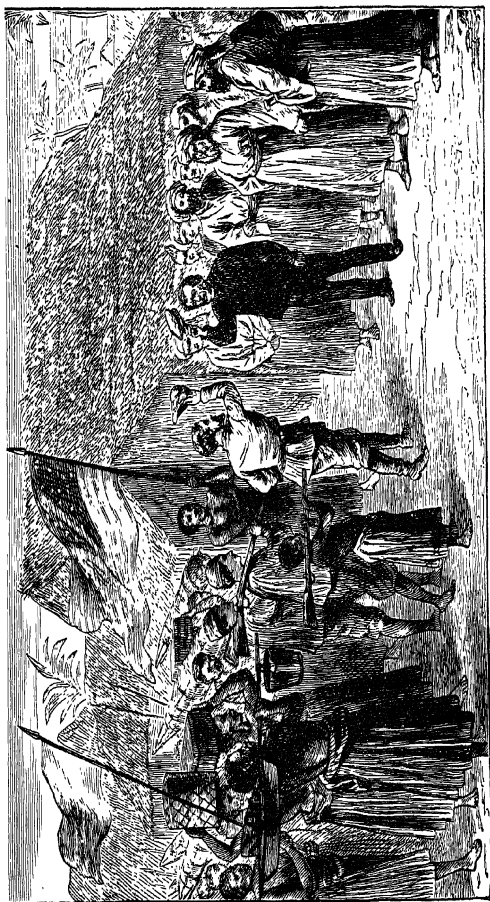
'Why, I leave him just now, sir.'

And thereupon Chuma, another well-known servant of Livingstone's, also appeared. Stanley suggested that one of them should run ahead and tell the Doctor of his coming. Susi was instantly seen racing headlong, with his white dress streaming behind him 'like a wind-whipped pennant.'

'The column,' Stanley writes, 'continued on its way, beset on either flank by a vehemently enthusiastic and noisily rejoicing mob, which bawled a jingling chorus of "Yambos" to every mother's son of us, and maintained an inharmonious orchestral music of drums and horns.'

'After a few minutes we came to a halt. The guides in the van had reached the market-place, which was the central point of interest. For there the great Arabs, chiefs and respectabilities of Ujiji, had gathered in a group to await events; thither also they had brought with them the venerable European traveller who was at that time resting among them. The caravan pressed up to them, divided itself into two lines on either side of the road, and as it did so, disclosed to me the prominent figure of an elderly white man clad in a red flannel blouse, grey trousers, and a blue cloth, gold-banded cap.

'Up to this moment my mind had verged upon non-belief in his existence, and now a nagging doubt intruded itself into my mind that this white man could not be the object of my quest, or, if he were, that he would somehow



Meeting of Stanley and Livingstone.

(From Stanley's 'How I found Livingstone'; Sampson, Low, Marston & Co., Ltd.)

contrive to disappear before my eyes could be satisfied with a view of him.

‘Consequently, though the expedition was organised for this supreme moment, and every movement of it had been confidently ordered with a view of discovering him, yet when the moment of discovery came, and the man himself stood revealed before me, this constantly recurring doubt contributed not a little to make me unprepared for it. “It may not be Livingstone after all,” doubt suggested. “If this is he, what shall I say to him?” My imagination had not taken this question into consideration before. All around me was the immense crowd, hushed and expectant, and wondering how the scene would develop itself.

‘Under all these circumstances I could do no more than exercise some restraint and reserve, so I walked up to him, and doffing my helmet, bowed and said in an inquiring tone—“Dr Livingstone, I presume?”

‘Smiling cordially, he lifted his cap and answered “Yes.”

‘This ending all scepticism on my part, my face betrayed the earnestness of my satisfaction as I extended my hand and added: “I thank God, Doctor, that I have been permitted to see you.” In the warm grasp he gave my hand and the heartiness of his voice, I felt that he also was sincere and earnest as he replied, “I feel most thankful that I am here to welcome you.” Then, remarking that the sun was very hot, the Doctor led the way to the verandah of his house, which was close by and fronted the market-place. The vast crowd moved with us.’

QUESTION

Stanley saw Lake Tanganyika for the first time and described it in October. Would the scenery be much the same throughout the year?

4. THE BREAKER OF ROCKS

Of all the gifts which fortune lavished upon Stanley, none was more remarkable than his natural temperament—that habitual mood of sanguine vital energy by which he was always conquering the world and creating his own

character. To an idle, greedy, or worldly man life must in the end become poorer and poorer: to a man like Stanley it will be constantly becoming richer and more full of reality. The search for Livingstone was a striking example: it was originally undertaken from no higher motive than that of journalistic enterprise and the love of adventure, but as it went on the journalist was transformed to an explorer, the young adventurer made himself into a great man.

Livingstone was the gainer, too, by this: his rescuer brought him a flood of news from the outer world, reviving emotions that had long lain dormant in the wilds of Man-yuema, but it was not merely of the news itself that he was speaking when he kept saying to Stanley, 'You have brought me new life—you have brought me new life.' He gave the young stranger not only gratitude, but his complete confidence; told him his thoughts and hopes, and entrusted to him the whole of his MS. Journals for the years 1866 to 1872, to be taken to England when the two travellers parted company.

They went together to Unyanyembe and there said good-bye. Livingstone was determined to finish his work: he collected fresh stores and started on a final journey to Bangweolo and Katanga. It was his final journey in another sense. After a year's hard travelling he became ill—too ill even to be carried. Susi got him to Chitambo's village, in Ilala, and laid him on a rough bed in a hut. At four in the morning they found him with his candle still burning; he had died while kneeling by his bedside with his head buried in his hands upon the pillow. This was a fitting end for the man who may be called the greatest of all our travellers: for he was a wanderer all his life, he travelled in Africa alone twenty-nine thousand miles, he added to the known part of the globe a million square miles, and from first to last he was free from all desire of personal advantage.

It is high praise of Stanley to say that he became worthy of the man he went to help. The two men were very different by nature: Livingstone's career was all of one piece, the result of a single constant motive; Stanley's was an almost incredible succession of changes, but they were

all changes of growth. We have seen how the lonely boy became the adventurous and self-reliant youth ; the search for Livingstone, and his intercourse with him when found, were great causes of development in his inner life.

The world did not at first understand anything of this : to the commoner minds a journalist was a journalist, and to be judged as such to the end. Moreover, a man with so public and sensational a record was regarded as a fair subject for any and every kind of gossip : vulgar, hideous, and absurd slanders accompanied his advancing reputation, like a mob of hooligans running and yelling beside a great procession. The effect on him was excellent. ' It taught me,' he says, ' from pure sympathy, reflection, and conviction, to modify my judgment about others.' He went on with his work and left all this noise behind.

First he lectured in England and America. Then in 1873 he went as special correspondent, with the British force under Sir Garnet Wolseley, to the Ashantee Campaign. Wolseley had been somewhat prejudiced against him, but he did not know him. In the battle of Amoafu one of the correspondents, he says, ' soon attracted my attention by his remarkable coolness. A thoroughly good man, no noise, no danger ruffled his nerve, and he looked as cool and self-possessed as if he had been at target practice. Time after time, I saw him go down to a kneeling position to steady his rifle, as he plied the most daring of the enemy with a never-failing aim. It is nearly thirty years ago, and I can still see before me the close-shut lips and determined expression of his manly face, which told plainly I had near me an Englishman in plain clothes whom no danger could appal. It was Sir Henry Stanley, the famous traveller. Ever since, I have been proud to reckon him among the bravest of my brave comrades.'

It was on his way home from this war that the news of Livingstone's death met Stanley. He accepted it and acted upon it as a summons to his real life's work. ' Dear Livingstone ! ' he wrote in his Journal. ' Another sacrifice to Africa. His mission must not be allowed to cease : others must go forward and fill the gap.' Then he prays to succeed him, but adds very characteristically and honestly : ' My methods, however, will not be Living-

stone's. Each man has his own way. His, I think, had its defects, though the old man, personally, has been almost Christ-like for goodness, patience, and self-sacrifice. The selfish and wooden-headed world requires mastering, as well as loving charity: for man is a composite of the spiritual and earthly."

After his return to England he sits down in his clear practical fashion to lay out the work that lay before him, as he conceived it. 'Let me see: Livingstone died in endeavouring to solve the problem of the Lualaba river. Stanley died by a gunshot wound during a discussion as to whether Lake Victoria was one lake, as he maintained it to be, or whether, as asserted by Captain Burton, James McQueen and other theorists, it consisted of a cluster of lakes.

'Lake Tanganyika, being a sweet-water lake, must naturally possess an outlet somewhere. It has not been circumnavigated, and is therefore unexplored. I will settle that problem also.

'Then I may be able to throw some light on Lake Albert. Sir Samuel Baker voyaged along some sixty miles of its north-eastern shore, but he said it was illimitable to the south-west. To know the extent of that lake would be worth some trouble.'

So a little while after the burial of Livingstone in Westminster Abbey he went to the proprietor of the *Daily Telegraph* and pointed out to him how much of Africa still remained a mystery. Mr Lawson at once cabled to Mr Bennett of the *Herald*, and the two agreed to send an expedition under Stanley's leadership to settle these great geographical questions. It seems an odd thing that newspapers and not Governments should have undertaken such a piece of world-surveying; but it undoubtedly freed the explorer from many restrictions and complications.

The story of the two great journeys which were Stanley's contribution to the civilising of Africa cannot be told in this book; but it may be very briefly outlined by a quotation from a paper read in December 1908 by Sir William Garstin before the Royal Geographical Society.

'I now come,' said Sir William, 'to what is perhaps the most striking personality of all in the roll of the discoverers

of the Nile, that of Henry Stanley. Stanley on his second expedition, starting for the interior on November 17, 1874, circumnavigated Lake Victoria and corrected the errors of Speke's map as to its shape and area. He visited the Nile outlet, and proved that the Nyanza was a single sheet of water and not, as Burton had asserted, a chain of small separate lakes. . . . Stanley's acute mind quickly grasped the possibilities of Uganda . . . this was in reality the first step towards the introduction of British rule in Equatorial Africa.

' Stanley's last voyage, and in some respects his greatest expedition, was undertaken (in 1887) for the relief of Emin Pasha, at that time cut off from communication with the outside world. . . . This time Stanley started from the Congo, and, travelling up that river, struck eastwards through the Great Forest, which stretches across Equatorial Africa. On emerging from the forest, Stanley reached the valley of the Semliki, and in May 1888 he discovered the mountain chain of Ruwenzori. This discovery alone would have sufficed to make his third journey famous. It was not all, however. After his meeting with Emin, he followed the Semliki Valley to the point where this river issues from the Albert Edward Nyanza : he was the first traveller to trace its source and to prove that it connects the two lakes and consequently forms a portion of the Nile system. Stanley has thus cleared up the last remaining mystery with respect to the Nile sources. It is impossible to exaggerate the importance of Stanley's work.'

Stanley therefore carried out his geographical programme completely. He added to it the founding of the Congo Free State, which proved him a great administrator and organiser. ' It was,' wrote Sir Sidney Low afterwards, ' a wonderful piece of management, a triumph of energy, resource, and hard work. Here it was that Stanley earned the title which I think gave him more satisfaction than the G.C.B. conferred on him towards the end of his life. The Africans called him " Bula Matari " (the Breaker of Rocks) —an appellation bestowed upon him by the brown-skinned villagers as they watched the sturdy explorer toiling bare-armed under the African sun with axe or hammer in hand, showing his labourers how to make the road from Vivi to

Isangela, which bridged the cataracts of the Lower Congo and opened the way to the upper reaches of the river.' It is a fine name, and it was finely chosen to be, with the word 'Africa,' the only inscription on his grave.

He died at dawn on May 10, 1904. His last words were perhaps the most profoundly significant of any recorded of great men passing away from that life which 'apart from God is but a bubble of air.' As four o'clock sounded from Big Ben, Stanley opened his eyes and said 'What is that?' His wife told him it was four o'clock striking. 'Four o'clock,' he repeated slowly; 'how strange! So that is Time! Strange!'

QUESTIONS

1. Study the map of East Africa and name the series of large lakes that extend parallel to the sea. What large river system has its source in this lake country and flows northwards?
2. What is the width of Lake Victoria? What is its length? Does it compare with Lake Superior in North America?
3. What large river system drains the western side of the watershed?

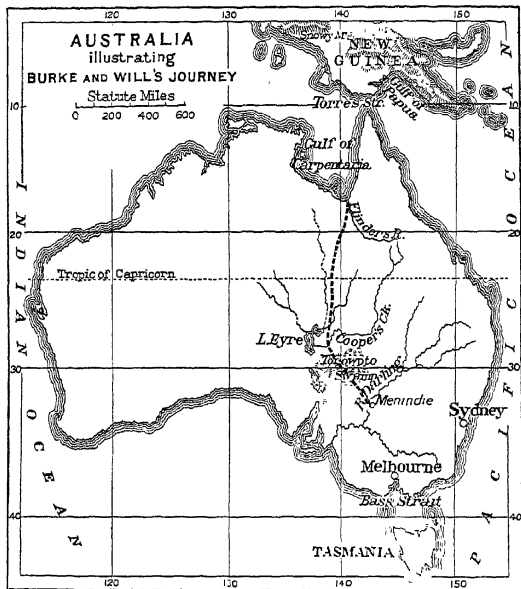
IV. ROBERT BURKE AND W. J. WILLS

I. AUSTRALIA FROM SEA TO SEA

ROBERT O'HARA BURKE was born in 1821 at his father's house of St Clerans in County Galway, Ireland. Mr Burke had been a soldier in his youth, and his sons were destined for the army. Robert, the youngest son, was a hard athlete, a bold rider, and of a roving nature. He left Woolwich to go to Belgium; he went from Belgium into the Austrian army, and then home again into the Irish Constabulary. After five years of this he emigrated to Australia, where he became police inspector in Melbourne, and afterwards a district inspector and magistrate. He was not in time to take part in the Crimean War, though he hurried back to offer himself as soon as he heard of it; but on his return to Australia he soon found an adventure for which he could volunteer. He applied for and obtained

the appointment of Leader of the Victorian Exploring Expedition.

It may seem strange to-day, when Australia is so famous among the nations of our Commonwealth, that only sixty years ago it should have been necessary to send one expedi-



tion after another into the interior to explore what had long been British territory. But a moment's comparison of the old map and the new will change this feeling into one of admiration for the immense work that has been done in so short a time. In the Atlas of to-day the island continent of Australia is neatly divided by straight lines into three vertical partitions, almost like a tricolour flag, with the right-hand section again divided into three hori-

zonally. Western Australia, South Australia, Queensland, New South Wales, Victoria—every square mile of the country is shown as belonging to one of them, and the map is fairly covered with the names of towns, mountains, rivers, springs, a desert or two, and some thirty lakes. If you turn back to the Atlas of sixty-five years ago, you see a very different state of things: the towns are there, most of them, like a fringe all round the coast-line, but the vast centre of the map is almost a clean blank, the mountains are mostly invisible, the few lakes are of unrecognisable shapes, the courses of the rivers and creeks uncertain or incorrect. And from Menindie on the river Darling a tiny dotted trail is marked, running up a little way into the blank and ending there with the words 'Sturt's furthest north, September, 1845.' The central region was all unknown—a mysterious land, a desert haunted by restless bands of aborigines, feeble wandering creatures, like the ghosts of lost children. It was this region that the Colony of Victoria determined to explore.

The Committee organising the Expedition was presided over by the Chief Justice of the Colony, Sir William Stawell, a man of great ability and force of character. But they laid a train of misfortune by the very first step they took after appointing Robert Burke as leader: they gave him as second in command a Mr Landells, who had successfully imported some camels from India to be used for the transport of the exploring party. Mr Landells went only as far as Menindie, the place from which the real start was to be made, and there he resigned his appointment. The retirement of Landells necessitated two changes in the personnel of the expedition: Mr Wills, the third officer, became second in his place, and for third, Mr Burke now appointed a man named Wright, who afterwards failed him lamentably and was the chief cause of his disaster. But no one could foresee this, and Burke probably thought the new arrangement satisfactory. His new second officer, William John Wills, was a Devonshire man, born at Totnes in 1834 and educated as a doctor at St Bartholomew's Hospital, London; but being also devoted to astronomy he was induced to join the staff of the Observatory in Melbourne, and ended by volunteering to go as

meteorologist with Burke's expedition. He was a man of character, patient, persevering, and trustworthy, and his medical knowledge was invaluable.

The explorers then who left Menindie on October 19, 1860, were nine in number: Burke, Wills, and Wright; Brahé, who was also given the rank of officer; four men named Patten, M'Donough, King, and Gray; and a sepoy, Dost Mohammed. They started with fifteen horses and sixteen camels, and travelled 200 miles easily in the first ten days, over a splendid grazing country. This brought them to Torowoto Swamp, more than halfway to Cooper's Creek, where they were to form their main depot. From Torowoto Wright was sent back to Menindie with orders to bring up the stores as rapidly as possible to Cooper's Creek.

The expedition struck Cooper's Creek on November 11, and moved along it for a couple of stages. They lost three camels which strayed away by night, but they were all in good spirits, planning their march right across the Continent to the Gulf of Carpentaria on the northern coast, a distance of about 1100 miles from Menindie, and from Cooper's Creek 750, or nearly twice the length of England and Scotland. At last, on December 16, Burke divided his men into two parties: Wills, King, and Gray were to make the great march with him, taking six camels and one horse, while Patten, M'Donough, and Dost Mohammed with six camels and twelve horses were to remain at the depot in charge of Brahé, until Burke's party returned, or their own provisions ran out; but they were not to leave unless from absolute necessity.

On the morning of the start the hopes of the exploring party were high; and they were destined to be splendidly fulfilled. But close upon the fulfilment was to follow the bitterest disappointment and a lingering death. To realise the greatness of what Burke and Wills achieved and the hardness of the fate by which they perished, it is necessary to keep clearly in mind the details of the plan upon which they were risking everything.

The distance before them was probably 1500 miles, out and back. Ninety days of marching at 17 miles a day would cover this, and the provisions for the journey were

therefore calculated upon this basis. For three months there would be for each man a daily ration of one pound of damper (bread) or biscuit, three-quarters of a pound of dried meat, and a quarter pound of salt pork, with tea and sugar, and a quarter pound of boiled rice every second day. A small margin was taken, and if the time had to be extended to four months it was hoped that additional food might be found by the way. In four months then at the outside the explorers must be back at their depot at Cooper's Creek. There they would find Brahé and his party waiting for them ; and there also would be an ample store of provisions brought up from the base by Wright, who was expected to have made his first journey in support only two days after Burke left Cooper's Creek. However exhausted the explorers might be, if they could once get back to their depot, it could not be doubted that they would find their supports there, with food and transport in abundance.

The outward journey was not only hopeful, but prosperous. The first incident was an encounter with a large tribe of blacks, who begged the white men to come to their camp and have a dance. They were very troublesome, but easily frightened away, for though fine-looking men, they were poor creatures. They lived by wandering among the creeks and waterholes, catching fish and gathering nardoo seeds ; their gins (wives) and piccaninnies (children) were camped in gunyahs or blanket-shelters. At other camps further on the blacks brought presents of fish to the explorers, who rewarded them with beads and matches. Sometimes a black would be seen climbing a tree, and digging out some kind of opossum from a hollow branch ; sometimes the travellers would find themselves tracked by silent followers, who watched them uncannily from among the box bushes, as haunting and as harmless as things in a nightmare. But no regrettable incidents occurred, and after marching for less than seven weeks the party had good reason to believe they were nearing the mouth of the Flinders River, which flows into the Gulf of Carpentaria. Burke and Wills pushed on for fifteen miles further, and though the swampy ground prevented them from actually reaching the coast, the saltiness of the tidal water proved

that they had succeeded in their first object—they had crossed the Australian continent from south to north, from sea to sea.

But from this moment the luck turned against them. They had been eight weeks out when they reached their goal, they had used up more than half their provisions, and had had to abandon one of their camels ; it was necessary to quicken their pace on the return march, but from the very first they failed to do this. Rain made the ground so muddy that the camels could only do four or five miles a day ; three of them died, and were eaten by the explorers, who were already beginning to starve. Then Gray became ill, then King. The daily ration was reduced to a quarter pound of flour and a bit of dried camel meat, with the addition of a vegetable called portulac which they found here and there. Once they shot a pheasant, but it turned out to be more like a crow, all claws and feathers. Once they killed an enormous snake, but it was not good eating, and Burke was ill after dining on it. Worst of all, poor Gray, who was suffering from dysentery, lost his moral sense, and was found to be in the habit of stealing rations beyond his fair share. He was punished and forgiven ; but he was more and more ill, and at sunrise on April 17 he became speechless, and died just as the party should have been starting. For a week past they had all been living solely on the dried flesh of their one horse, and taking it in turns to ride the two remaining camels ; they had still four days' marching before them and were extremely weak. But Gray's death moved them deeply, and they would not leave his body unburied. To dig a grave and lay him in it took them the whole of that day—and that day, as it turned out, was all the margin of life they had in hand.

At the very moment when they started again on the 18th, Brahé, who was waiting for them at Cooper's Creek, and upon whom all their hopes depended, came to the end of his patience and his resolution. Patten, one of the men left with him, had long been ill with scurvy, and was continually begging to be taken back to Menindie. Wright, in all these months, had never brought up the fresh stores. Brahé used his imagination upon his own dangers and not

upon those of the explorers, whose lives were in greater jeopardy. This very day he wrote in his diary: 'There is no probability of Mr Burke returning this way.' He counted up the time that he had waited, and on the morning



SLW
' Taking it in turns to ride the two remaining camels.'

of April 21, having buried some provisions, and carved the word 'Dig' on a tree above them, he put Patten on a quiet camel, and started for Menindie. Within seven hours, Burke, Wills, and King entered the camp, and found it deserted.

QUESTIONS

Is Northern Australia in the monsoon region? In which season does rain fall there? Was December a well-chosen time for the expedition, for purposes of water-supply?

2. WHITE MAN AND BLACK MAN

Brahé in his retreat covered some eighty miles in eight days, and about daybreak on April 29 he observed smoke rising within three hundred yards. The place he had chanced upon was Bulloo, where Wright had established himself, eighty miles from Cooper's Creek. Wright had packed up and was ready to go when Brahé's party appeared and placed themselves under his orders.

They all left Bulloo for Menindie on May 1. The day's entry in Wright's diary reads as follows: 'I did not see the utility of pushing on the depot to Cooper's Creek for the purpose of remaining there the few weeks our stores would last. Our cavalcade made quite an imposing appearance with its twenty-two horses and fifteen camels, and the spirits of the whole party were animated by the prospect of regaining the settled districts.' . . .

He halted two days at Koorliatto, and his imagination perhaps pictured his leader struggling along behind him, also animated by the desire of regaining the settled districts. At any rate on May 3 he had a fit of uneasiness. 'As I was anxious to ascertain, before finally leaving the country, whether Mr Burke had visited the old depot, I started with Mr Brahé and three horses for Cooper's Creek.'

It is the mistakes, the disloyalties, and the cross purposes which make this story so lamentable. Burke and Wills, as we know, had returned to the deserted depot. Wright and Brahé went back there, but they were fourteen days late in their repentance; they found an empty camp. On the ground were camel tracks, but they took them for the old tracks of Brahé's party; there were ashes of two or three fires, but they supposed them to have been made by blacks; in the caché was a bottle with a message from Burke, but they did not dig it up—they thought the blacks might be watching them. They stayed a quarter of an hour, and rode away. In six weeks they reached Menindie, and by June 30 Brahé was in Melbourne, delivering despatches to the Governor and Sir William Stawell.

It was a Sunday, but a special meeting of the Committee was held instantly. Sir William was hopeful, but pressed

for the immediate despatch of a relief party. Someone proposed to adjourn till Monday; Sir William was firm, 'All we know now is that four men whom we sent out, require aid; we can arrive at a resolution to send aid.' This resolution was passed, and two parties were sent out, one by steamer to the north, and one by land.

The land party was in charge of Mr Howitt; he made his preparations rapidly, and achieved the only success that was still possible. By September 3 he was near Bulloo, and striking straight for Cooper's Creek. On the 6th he came on a party of blacks; some of them ran away, some waited for him, waving branches, and jabbering very excitedly. The only young man among them was trembling as if in terror. Howitt could get only one intelligible word from them, and that was 'Gow,' which means 'Go on.' They offered an older man a knife, if he would guide them; but he bolted up a tree, jabbering incessantly and pointing towards Cooper's Creek.

On the 13th and 14th tracks of stray camels were seen, and on the 15th some horse tracks and the handle of a clasp knife. Howitt now had strong hopes of picking up Burke's trail. In the afternoon he crossed a large reach of water and followed the track of a camel going up the creek. Soon afterwards he found a man who began to gesticulate in a very excited manner, pointing down the creek and bawling 'Gow, gow!' as loud as he could. Howitt, finding that the man only ran away when he tried to approach him, turned back and crossed the creek to rejoin his own party. In doing so, he came upon three pounds of tobacco, which had evidently been lying for some time. This, together with the knife handle, the fresh horse tracks and the camel track going eastward, puzzled him extremely, and led him into a hundred conjectures. He could not guess the riddle; but the answer was not far off. At the lower end of the reach of water which he had recrossed he saw two of his own men coming to meet him. Evidently they had news for him, but he could not tell whether good or bad. It was in fact both good and bad. King had been found; but he was the only survivor of Burke's party. Howitt went forward, to where the rest of his men were halted, walked across to the blacks' camp close by, and there found

King sitting in a hut which the blacks had made for him. He was wasted to a shadow, with only remnants of civilised clothing upon him, and so weak that what he said could



‘Waving branches, and jabbering very excitedly.’

hardly be understood. The blacks, childish as ever, but kindly in their childishness, were all gathered round him, seated on the ground, looking on ‘with a most gratified and delighted expression’ to see their guest greeted by his friends at last. For more than a month they had fed and tended him as if he had been one of themselves.

3. THE LAST MARCH

We must now go back to Burke and Wills and tell their story to the end. It is a painful story, but the pain is almost lost in so fine a record of conduct. These two suffered betrayal and a lingering death in the desert ; but they met their fate without complaining or despair. They were plain men, not giants or figures of romance ; but they gave a shining example of how men may play the game to the last, faithful to each other and to their purpose, even when others have failed them. Best of all, they suffered and died without leaving one word of bitterness behind them.

We know all that we could desire to know of their last adventure : we have Burke's notes, Wills's diary, and King's narrative, and all three agree, except for one trivial error in a date. From King we learn that the party reached Cooper's Creek in a state of complete exhaustion after their forced march of thirty miles. ' It was as much as one of them could do to crawl to the side of the creek for a billy of water.' Burke himself seemed for a time ' too excited to do anything.' Naturally : he was the responsible leader, he saw his whole plan ruined by Brahé's desertion, and being the most imaginative of the three he realised in a moment of terrible insight the fate which lay almost inevitably before them.

It was Wills who first set about the business of searching for some indication of what had really happened. Scattered about the place he found certain articles which would not have been thrown away if Brahé's party had been merely changing station for a time. Looking more closely he saw an inscription cut upon a tree—' DIG. 21 April, 1861.' He exclaimed, '*They have left here to-day!*' and immediately set to work with King to dig beneath the tree. A few inches underground they came upon a box of provisions and a bottle containing a letter.

Depot, Cooper's Creek, April 21, 1861.

The depot party of V.E.E. leaves this camp to-day to return to the Darling (river). I intend to go S.E. from Camp 60, to get into our old track near Bulloo. Two of

my companions and myself are quite well ; the third—Patten—has been unable to walk for the last 18 days, as his leg has been severely hurt when thrown by one of the horses. No person has been up here from the Darling. We have six horses and twelve camels in good working condition.

WILLIAM BRAHÉ.

This was a fresh blow for the deserted three : they knew now where the other party were, but the message took away all hope of being able to overtake them. Brahé and Co. had a day's start, they were in good health, and abundantly supplied with transport. Three half-starved men with two dead-beat camels would be left further and further behind every day. The explorers felt that they were left to themselves and must make their own way out. They decided to rest for a day or two, and recruit their strength with the food they had found, before they started on their last lonely march by whatever route seemed best. Their undefeated courage is shown by the day's entry in Wills's diary :

Arrived at the depot this evening, just in time to find it deserted. A note left by Brahé communicates the pleasing information that they have started to-day for the Darling : their camels and horses all well and in good condition. We and our camels being just done up and scarcely able to reach the depot, have very little chance of overtaking them. . . . These provisions, together with a few horseshoes and nails and odds and ends, constitute all the articles left, and place us in a very awkward position in respect to clothing. Our disappointment at finding the depot deserted may easily be imagined—returning in an exhausted state, after 4 months of the severest travelling and privation, our legs almost paralysed, so that each of us found it a most trying task only to walk a few yards. Such a leg-bound feeling I never before experienced and I hope never shall again. . . . We were not long in getting out the grub that Brahé had left, and we made a good supper off some oatmeal porridge and sugar. This, together with the excitement of finding ourselves in such a peculiar and almost unexpected position, had a wonderful effect in removing the stiffness from our legs.

The 'almost unexpected position' perhaps refers to the discovery of the provisions after the first disappointing moments. Wills was under the impression that they had now 'ample to take us to the bounds of civilisation.' Not that they could attempt to overtake Brahé, but Burke had quickly recast his plans, and now proposed to make for a range towards the S.W.—it was called by the ominous name of 'Mount Hopeless,' but not far from it was Mount Searle, one of the regular South Australian police stations, and the whole distance was only about 150 miles, or less than half the distance to Menindie.

Two days later they started, after Burke had written the following letter and deposited it in the bottle under the tree with the word 'DIG' carved upon it.—

Depot No. 2, Cooper's Creek, Camp 65.

The return party from Carpentaria, consisting of myself, Wills, and King (Gray dead), arrived here last night, and found that the depot party had only started on the same day. We proceed to-morrow slowly down the Creek towards Adelaide, by Mount Hopeless, but we are very weak. The two camels are done up, and we shall not be able to travel faster than 4 or 5 miles a day. Gray died on the road, from exhaustion and fatigue. We have all suffered much from hunger. The provisions left here will, I think, restore our strength. We have discovered a practicable route to Carpentaria. There is some good country between this and the Stony Desert. From there to the tropics the country is dry and stony. Between the tropics and Carpentaria a considerable portion is rangy, but is well watered and richly grassed. We reached the shores of Carpentaria on the 11th of February, 1861. Greatly disappointed at finding the party were gone.

ROBERT O'HARA BURKE, *Leader.*

April 22, 1861.

P.S.—The camels cannot travel and we cannot walk, or we should follow the other party. We shall move very slowly down the creek.

There is always something moving, something significant, about letters and diaries like those quoted above—messages thrown as it were into the air by lost men who will never see their friends again and cannot even tell if their record will ever come to hand. The specially notable thing about these messages is their unembittered tone. They are gentle men, these two : they say quite naturally that they were greatly disappointed, but they neither curse their fate, nor fear it overmuch. Above all they leave no angry reproach or accusation against those who brought their disaster upon them. They were unfortunate, but not unhappy, and there is no more honourable strength than that.

Their new effort began almost cheerfully ; as long as their provisions lasted they found the change of diet made a great improvement in their spirits and force. But they remark that the nights are very chilly from their deficiency in clothing. Still they were doing their five miles a day and getting fish from friendly blacks, when their transport animals both broke down in succession. First the camel Linda on the sixth day's march got bogged near a water-hole and could not be got out. The ground was a bottomless quicksand, through which the poor tired beast sank so rapidly that it was impossible to get bushes or timber fairly beneath him, and he would make no real effort towards extricating himself. In the evening, after spending the whole day in vain attempts, the travellers as a last chance let the water in from the creek, so as to buoy the animal up and soften the ground about his legs. But Linda was not to be roused ; he ' lay quietly in it as if he quite enjoyed his position,' and next morning he was shot and converted into dried meat. Three days later the other camel, Rajah, showed signs of giving out, trembling all over, and stiffening at night. Another week and he had shared Linda's fate.

Meanwhile Burke and Wills had been wandering about in search of fresh food supplies, for time was running heavily against them now. Twice they found black men fishing, and were most hospitably entertained by them with fish, rats baked in their skins, and cakes made of pounded nardoo seeds. Burke determined to find out where he

and his companions could find nardoo for themselves, and how to trap rats. But when he tried to meet the blacks again he failed to find them ; they were constantly on the move.

He decided, therefore, that a fresh attempt must be made to march towards Mount Hopeless. All three of the travellers were now terribly tired, they had to march on foot, and their daily ration was much reduced. But no sooner had they started than they had a gleam of good luck : at the foot of a sandhill King caught sight, in the flat, of some nardoo seeds, and soon found that the whole flat was covered with them. ' This discovery,' says Wills, ' caused somewhat of a revolution in our feelings, for we considered that with the knowledge of this plant we were in a position to support ourselves, even if we were destined to remain on the creek and wait for assistance from town.' Unhappily the nardoo was not so nutritious a diet as they imagined : it needed to be supplemented by fat of some kind, and as they could not get that they began to starve slowly.

A week later they were mocked by another momentary gleam of hope. It was May 24, and Wills had gone out with King ' to celebrate the Queen's birthday by fetching from Nardoo Creek what is now to us the staff of life.' While picking the seed, about 11 A.M. both the men heard distinctly the noise of an explosion, as of a gun, at a considerable distance. They supposed it to be a shot fired by Burke ; but on returning to the camp they found that he had neither fired a shot nor heard one. Yet there could have been no mistake ; a gunshot is a sound everyone knows, both Wills and King had heard it, and there was nothing to indicate a thunderstorm in any direction.

This mysterious occurrence probably had some weight in their decision to stay where they were, rather than try again to crawl towards Mount Hopeless. Burke took the precaution of sending Wills back up the creek to the depot, to place a note there, stating that they were now living on the creek. This was very necessary, for the note they had left stated that they were marching for Adelaide by way of Mount Hopeless. Wills set out on May 27, with the new note and his journals ; he carried some nardoo, and

was liberally helped by some natives on the way. On the 30th he reached the depot; Wright and Brahé, as we know, had been there three weeks before, but their visit of a quarter of an hour had left no trace whatever. Wills wrote on this day his last letter, and deposited it with his journals in the caché :

Depot Camp, May 30.

We have been unable to leave the Creek. Both camels are dead, and our provisions are done. Mr Burke and King are down the lower part of the creek. I am about to return to them, when we shall probably come up this way. We are trying to live the best way we can, like the blacks, but find it hard work. Our clothes are going to pieces fast. Send provisions and clothes as soon as possible.

W. J. WILLS.

The depot party having left, contrary to instructions, has put us in this fix. I have deposited some of my journals here, for fear of accidents.

W. J. W.

He left again the same afternoon, and on his way back stayed with the blacks in their camp, 'intending to test the practicability of living with them.' He found that they had kept Burke and King well supplied with fish in his absence, and when he rejoined his friends they all agreed to move camp to be nearer these friendly people. But they were all three very weak now, and when they had crawled to the place the blacks had once more vanished.

By June 21, Burke and Wills were losing the power of walking; they sat all day pounding the nardoo which King was still able to bring in. The end was in sight. Wills wrote in his diary :

Unless relief comes I cannot possibly last more than a fortnight. It is a great consolation, at least, in this position of ours, to know that we have done all we could, and that our deaths will be the result of the mismanagement of others rather than of any rash acts of our own. Had we come to grief elsewhere, we could only have blamed ourselves; but here we are, returned to Cooper's Creek where

we had every reason to look for provisions and clothing : and yet we have to die of starvation, in spite of the explicit instructions given by Mr Burke that the depot party should await our return, and the strong recommendation to the Committee that we should be followed up by a party from Menindie.

This is the only word of anything like complaint written by these starving men, and it is put down as a 'consolation,' a defence of themselves rather than a charge against others. Wills was in no complaining mood, as may be seen from the very last entry in his journal, written when Burke and King were driven to leave him for a day or two and make a last attempt to find help.

Friday, June 28.—Clear cold night : day beautifully warm and pleasant. Mr Burke suffers greatly from the cold and is getting extremely weak. He and King start to-morrow up the creek to look for the blacks : it is the only chance we have of being saved from starvation. (They have both shown great hesitation and reluctance with regard to leaving me, and have repeatedly desired my candid opinion in the matter.) I am weaker than ever, although I have a good appetite and relish the nardoo much ; but it seems to give us no nutriment. . . . Nothing now but the greatest good luck can save any of us ; and as for myself, I may live four or five days if the weather continues warm. My pulse is at 48 and very weak, and my legs and arms are nearly skin and bone. I can only look out, like Mr Micawber, 'for something to turn up.' Starvation on nardoo is by no means very unpleasant, but for the weakness one feels, and the utter inability to move oneself ; for as far as appetite is concerned, it gives me the greatest satisfaction . . . but the want of sugar and fat in all substances obtainable here is so great that they become almost valueless to us as articles of food, without the addition of something else.

When Wills wrote this message of quiet humour and scientific observation he knew that it was the end of his journal, for he signed it with his name. Next morning

Burke and King said good-bye, and he was seen no more alive.

Burke too was dying, but he was a man of tremendous energy and will power, and he thought he had a chance of saving his companions. The first day he made a good march : but on June 30 he broke down at the second mile. All that day—the very Sunday on which Sir William Stawell was so urgent on the sending of a relief expedition—Burke was making effort after effort to find a rescue party for his friend. 'Every step in advance was a chance for Mr Wills'; he threw his swag away, and struggled on ; 'he walked till he dropped.' At night King shot a crow, and they made their last meal together.

A little later Burke told King to give his watch and pocket-book to Sir William Stawell, and asked him to stay with him till he was quite dead, then to place his pistol, given him by friends, in his right hand, and leave him unburied as he lay. During the night he wrote with a firm hand a farewell to his sister, and at dawn he died.

King obeyed his last wishes and wandered on, then back to the depot where he found Wills lying dead. He buried the body in sand, and immediately afterwards succeeded in tracking the blacks. They evidently knew of Wills's death, and appeared to feel great compassion for King when they understood that he was now alone on the creek. But like children they alternately got tired of him and again heaped him with attentions. Like children too they were very anxious to know where Burke lay dead, and one day King took them to the spot. On seeing the lonely body the whole party wept bitterly, and covered it with bushes. After that they were much kinder than ever before, and in the evenings, when they came with fish and nardoo, they used to talk about the 'white fellows' coming, and point to the moon, for King had told them that white men would come for him before two moons. At last one day, one of them came back from fishing and told him that the 'white fellows' were near, and the whole tribe then sallied out in every direction to meet the party.

King took only two days to recover his strength. Before starting homeward he and Mr Howitt invited the whole tribe of blacks to come over to the white men's camp and

receive presents as an acknowledgment of their kindness. They came in a long procession, men, women, and piccaninnies, bawling as usual at the top of their voices. The presents were tomahawks, knives, necklaces, looking-glasses, and combs. 'I think,' says Howitt, 'no people were ever so happy before.' The piccaninnies were brought forward by their parents to have red ribbon tied round their heads . . . and they left making signs expressive of friendship.' Next day the white men were on their homeward way.

So ended the Victorian Exploring Expedition, and few adventures have ever stirred more profoundly the feelings of the British people. Besides their fame, the memory of the two leaders received every possible honour: in Melbourne a public monument and a resolution of both Houses of Parliament; in London the medal of the Royal Geographical Society and a special despatch from the Secretary of State for the Colonies. 'I am fully sensible,' he wrote, 'of the advantages which their dearly bought success will confer on geographical science and on their Australian fellow-colonists, and I gladly embrace this opportunity of expressing the admiration which I feel for the spirit of enterprise in which their task was undertaken, the perseverance with which it was pursued, and the patience and mutual fidelity which, even to the unhappy termination of their labours, appear never to have forsaken them.'

QUESTIONS

Pulse at 48. What is the normal number of beats to the minute?
 'June 28.—Clear, cold night.' What season was this in the southern hemisphere?

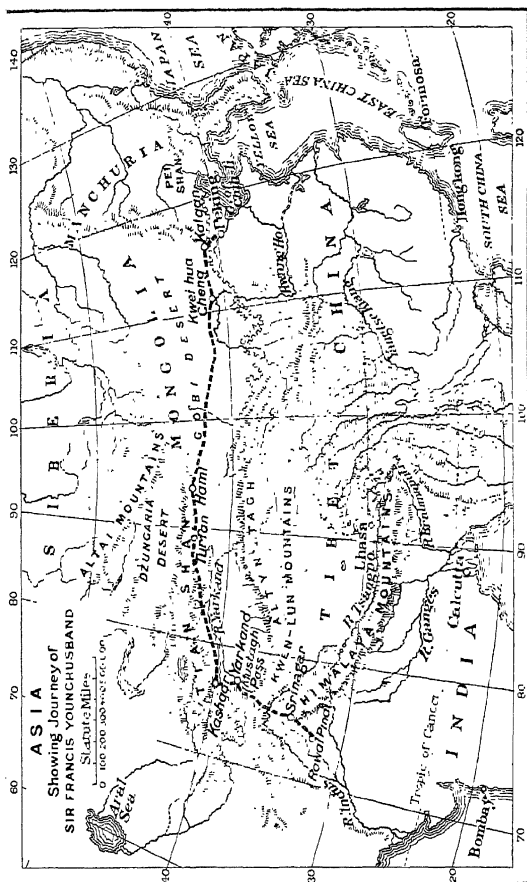
V. FRANCIS YOUNGHUSBAND

I. A BOY'S WILL

A boy's will is the wind's will,
And the thoughts of youth are long, long thoughts.

FRANCIS EDWARD YOUNGHUSBAND was born in 1863 at Murree, a hill station on the north-west frontier of India, some forty miles beyond Rawal Pindi. His father, Major-General John William Younghusband, belonged to an old Northumbrian family; his mother was sister to Robert Shaw, the explorer, who crossed the Himalayas to the plains of Turkestan. By inheritance and tradition, he was marked out for a soldier or an explorer.

In 1876, before he was thirteen, he went to school at Clifton, where he spent nearly five years among a set of contemporaries of whom many were destined to make a name in very various careers. A number of them were training for military service, and of these no less than four lived to hold high command during the Great War, as Sir Douglas Haig, Sir William Birdwood, Sir David Campbell, and Sir George Younghusband. Frank, too, chose the Army, and in 1882 got his commission in the King's Dragoon Guards; but when he had been three years in the service, for which he had every kind of qualification, his whole career was changed by a cause which arose suddenly from within himself and overpowered all other influences. It was in 1884, he says, that the first seeds of this change were sown. He had obtained a few months' leave from his regiment, which was then stationed at Rawal Pindi, and this leave was spent in touring through some of the lower ranges of the Himalayas. By a natural instinct he went first to Dharmasala, for many years the home of his uncle, Robert Shaw. 'Here,' he says, 'I was among the relics of an explorer, at the very house in which he had planned his explorations, and from which he had started to accomplish them. I pored over the books and maps, and talked for hours with the old servants, till the spirit of



exploration gradually entered my soul, and I rushed off on a preliminary tour on foot, in the direction of Tibet.'

Adventures are to the adventurous, says the proverb, and it is often seen that when a man has once devoted himself to a pursuit, opportunities spring up in front of him. By mere chance Frank found himself one evening at a dinner-party at Simla, talking to Mr James, then Director-General of the Post Office in India, and a confirmed tramp. The magic words 'Yarkand' and 'Kashgar' made them friends on the spot. Soon afterwards, on a Sunday afternoon, Mr James walked in and asked Young-husband if he would go a journey with him.

The two travellers decided upon China for their country, and for their objective they chose a mountain famous in Chinese legends—the Chang-pai-shan, or 'Ever-White Mountain,' which had only once been visited by Europeans, and that was in 1709. On March 19, 1886, James and Younghusband sailed from Calcutta, and on May 19 they started inland from the treaty port of Newchwang, travelling in little tandem mule-carts with their legs dangling over the shafts and their baggage heaped up behind. At Mukden, the capital of Manchuria, they exchanged these for a caravan of mules, and set out towards the Yalu River.

The buildings of the country, especially the temples, were tawdry and flimsy, the people strong and hard-working, with enormous appetites. But their customs were uncomfortable. 'The Chinese and Manchus never milk their cows . . . they will eat rats and dogs, but they will not drink milk, and we missed this simple necessary very much.' On the other hand, the scenery was hilly and extremely beautiful: the woods were of oak and elm trees, such as are common in England but unknown in India. The valleys were filled with thriving little villages, and the quantity of ferns and wild flowers was extraordinary. Mr James was making a botanical collection, and found in one day five kinds of lily of the valley, several maidenhair varieties—one especially lovely, in shape like a spiral bowl—besides lilies, violets, anemones, and other familiar English flowers. It was, they thought, 'a perfect little country.'

The river Yalu, where they struck it, was 300 yards wide and 10 to 15 feet deep; it was covered to the water's edge

with forests, broken only by occasional meadows, dense with flowers—lilies, purple irises, and columbines in waving sheets of colour. Rafts drifted quietly down this great river, while the travellers had to plod laboriously through the forest up stream.

After four days of this work the forest opened out and they saw with infinite relief the mountain they were seeking. It was only some 8000 feet high after all, but what it lacked in grandeur was made up for in beauty, for its sides were covered with the most exquisite meadows and copses. In Kashmir there are many beautiful meadows, but none to compare with those of the Ever-White Mountain. Among scattered and stately fir-trees were masses of ferns, irises, tiger-lilies, columbines, gentians, buttercups, azaleas, and orchids, all in their freshest bloom. The mountain itself had two rugged peaks, with a saddle between them and open slopes below covered with long grass and dwarf azaleas, heather, yellow poppies, and gentians. But the great surprise of all came when the travellers reached the saddle and saw, not a wide panorama, but a most beautiful lake in a setting of weird fantastic cliffs just at their feet. They were in fact on an extinct volcano; what had once been its fiery crater was now a lake of a peculiarly deep blue, six or seven miles round, and out of it flowed the main branch of the Sungari—a magnificent river excelled by few others in the world. It was impossible to climb down the volcanic cliffs to the lake, but Younghusband succeeded in reaching the summit of the highest peak and looking over the endless forests of Corea. He also found the secret of the Ever-White Mountain: it was white, not with snow, but with pumice-stone thrown up by the old volcano. This and its flowers and its wonderful solitary lake made it more remarkable than many snow mountains.

The travellers now regained their mules and marched to Kirin, where they rested for three weeks; then on still north by the Sungari to Tsitsihar, then east to Sansing, then south to Ninguta and to Hunchun, where Russian, Chinese, and Korean territory meet. Winter was now upon them, and with the thermometer at 11° Fahrenheit they hurried back through Kirin to Newchwang, which they reached on December 19, just seven months after they had started out from it.

QUESTIONS

1. What is the geographical position of Newchwang? Towards which country would the explorers go, leaving Mukden for the Yalu River? What would their general direction be?
2. In which direction does the Sungari River flow? In what latitude is Hunchun, where Corea, Russia, and Manchuria meet? What temperature did the thermometer show at Hunchun in November?

2. THROUGH THE GREAT WALL

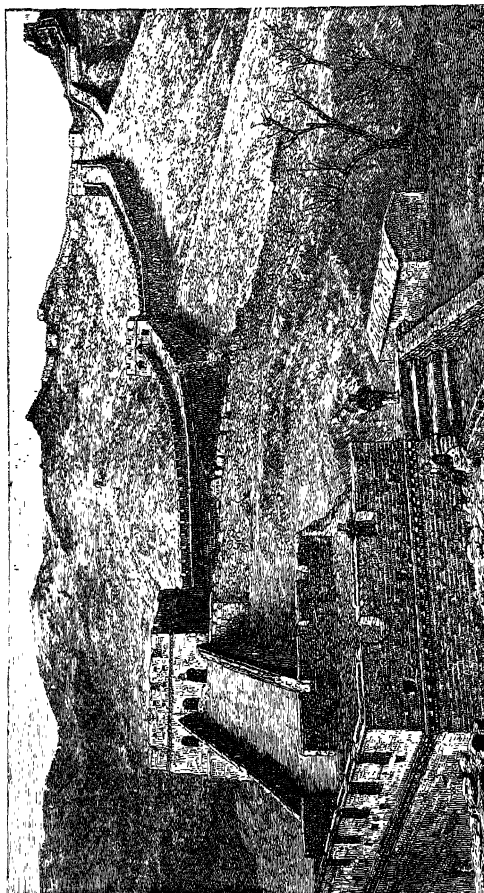
At Peking Frank stayed at the British Legation. While there news came that Col. M. S. Bell, V.C., of the Royal Engineers, was to come to Peking and travel right across to India. Directly he arrived, Frank asked to be allowed to accompany him. Colonel Bell at once consented, but as he himself was employed on Intelligence work and must go by the best and most populous route, he suggested that they should travel separately, so that Frank could explore the more remote regions of Mongolia and Turkestan. This was evidently the best opportunity for a young traveller if he did not mind making his way alone through thousands of miles of desert and mountain, by a track never trodden by any other European. The two travellers mapped out their routes, and agreed to rendezvous at Hami, the other side of the great Gobi Desert, and nearly 2000 miles from the start. Colonel Bell went off, and arrived at Hami three weeks before Frank, so the meeting that they had planned did not take place.

No one in Peking could be found to give any information about the desert of Gobi, or about the state of the country on the other side; there was no knowing how a solitary European traveller would be likely to be received there. It was a real plunge into the unknown. 'Had but one traveller gone through before me,' Frank wrote afterwards, 'had I even now with me a companion upon whom I could rely, or one good servant whom I could trust to stand by me, the task would have seemed easy in comparison.' But he was all his life to be distinguished by indomitable self-reliance, and he took his plunge with only two Chinese servants, of whom one turned back when he came to the edge of the desert. The other, the faithful Liu-san, inter-

preter, cook, table servant, groom, and carter, was always willing to face the difficulties of the road; he went right through to India with his master.

The journey began on April 4, 1887. For the first two weeks Younghusband rode, with the baggage following in carts. The day after leaving Peking he passed through the inner branch of the Great Wall of China at the Nankou Gate, and two days later he came to the outer branch at Kalgan. This was not his first sight of the Great Wall, for it runs down to the sea at Shan-hai-Kuan, through which he had passed on his previous journey. That section of it was wonderful, in fact one of the wonders of the world. Imagine a line of hills, running from far inland down to the coast, and all along these heights, as far as the eye could reach, this huge wall 'going down the side of one hill, up the next, over its summit and down the other side again, then at the end coming finally down and plunging right into the sea, till the waves washed the end of it.' And such a wall too: 'a regular castle wall, such as they built in the Middle Ages round their strongest castles, thirty or forty feet high, of solid stone, and fifteen feet or so thick, wide enough for two carriages to drive abreast on it, with towers every few hundred yards.' At first sight it seemed to Younghusband almost more wonderful than the Pyramids of Egypt, and it certainly surpasses all that is left of the Roman Wall in England. But the builders of the Chinese Wall had not the power or the resources to finish their gigantic work in a style worthy of its beginning. By the time it reached the desert it had become only twenty feet high, made of mud, with mud-built towers at intervals of half a mile: crumbling to pieces and with large gaps in it. The gate was made of wood.

On April 10 the little expedition started again from Kalgan, supplied with carters and stores. They left the great Peking-to-Siberia caravan route and ascended the broad valley of the Yang-ho, passed finally through the Great Wall, and entered what Marco Polo calls 'the land of Gog and Magog.' On the morning of the 14th they emerged on to the vast grassy plain of Mongolia. It was just a rolling sea of grass, without islands or shores in any direction: only here and there far-away groups of small



The Great Wall of China.

(From James' 'The Long White Mountain'; Longmans, Green & Co.)

dots could be seen, which when at last approached were found to be herds of camels and cattle. There were deer too, in small herds; geese and duck passed overhead, and larks rose and fell, singing as in England on the morning air. In this immense plain the only human habitations are the yurts or felt tents of the Mongols: very clean and neat dwellings, dome-shaped, with a central fireplace and over it a latticed hole in the roof: boxes and cupboards all round the sides, and at one end some vases and images of Buddha. The comfort of these tents and the cream he got there charmed Younghusband, and he loved the vast, open country and the wild animals.

QUESTIONS

1. What is the general direction of the Hwang-ho valley north of the Great Wall? The Great Wall is of such dimensions that it is marked, together with natural features such as mountains and rivers, upon the map. Is it not remarkable that the work of man should achieve this distinction? What other works of public utility are marked upon maps of China?
2. How many days did the explorer travel, after leaving the Great Wall, before he emerged upon the steppe country of Mongolia?

3. ACROSS THE GREAT DESERT OF GOBI

On April 17 Younghusband reached Kwei-hwa-Cheng, and began his preparations for crossing the desert to Hami. These consisted mainly in engaging a guide and eight camels, and fixing an auspicious day for the start. The Chinese Almanack was unfavourable to the 23rd, 24th, or 25th, but the 26th was at last decided on as a thoroughly fortunate day. Younghusband said good-bye to his European friends and launched himself upon the Gobi with only three companions; there should have been four, but Changsan, the interpreter, could not face the desert when the moment came. The three were as follows:—first the guide and camel-man, 'a doubled-up little man, whose eyes were not generally visible, though they sometimes beamed out from behind his wrinkles and pierced one like a gimlet. ~~He was a good old man—the~~

way in which he remembered where the wells were, at each march in the desert, was simply marvellous. He would be fast asleep on the back of a camel, leaning right over with his head resting on the camel's hump, or dangling about beside it, when he would suddenly wake up, look first at the stars, by which he could tell the time to a quarter of an hour, and then at as much of the country as he could see in the dark. After a time he would turn the camel off the track a little, and sure enough we would find ourselves at a well.'

Then there was a Mongol assistant, by name Ma-te-la, 'a careless good-natured fellow, always whistling or singing and bursting into roars of laughter, especially at any little mishap.' He had to work prodigiously hard: to walk the whole march, leading the first camel, then to unload, pitch tents, and scour the country for fuel, sleep among the camels and take them out at dawn to graze, snatch a meal himself, round up and drive in the camels again, load up and start. He refused an offer of a mount, because he said the guide would give him no wages if he rode.

The third was the Chinese 'boy,' Liu-san: the only one who knew a few words of English. At first Younghusband, not knowing how far he could trust him, gave him a revolver without cartridges; afterwards he loaded it for him and told him that he had the most complete confidence in him. The plan answered well; Liu-san showed the revolver to everyone he met and told them that though he himself could only kill about twenty at a time, his master was bristling all over with much more deadly instruments. He really did believe in Younghusband, in a way of his own: 'I think master belong big gentleman: no belong small man.' He meant that his master was a great man, though crazy enough to wander the desert instead of staying at home; and he used to add, 'I think master got big heart: Chinese mandarin no do this.'

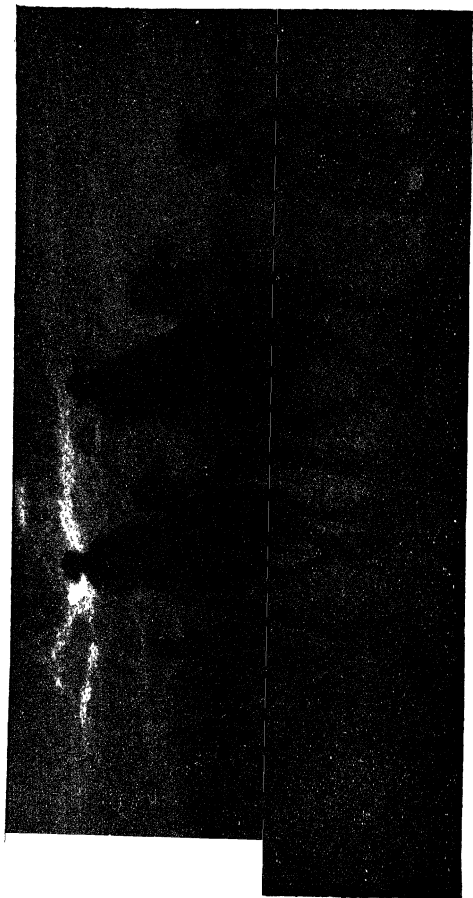
This little caravan of four men and eight camels began by plodding for fourteen days through an undulating country dotted with Mongol temples and tombs. On May 7 they emerged on to an extensive plain, and on the 8th they met for the first and only time a caravan coming from the West. It was sixty days out from Guchen; the 150

camels were mostly unladen, but several carried boxes of silver. After this the route lay by a spur of volcanic hills ; the country became more and more barren, streams disappeared and water could only be got from water-holes dug by former travellers in the waste. The plain seemed to be infinitely vast, and the tiny caravan to have no chance of ever getting across it.

The travellers usually started about 5 p.m. and marched until midnight, so as to avoid the heat of the day. During these long and dreary stages, Younghusband on his slow silent camel managed to read and even to write ; but after sunset this was no longer possible—the march went on by starlight until the guide gave the signal to halt, and the camels sighed with relief as they sank to the ground. For ten whole weeks this monotonous routine went on ; the saving point was the beauty of the nights, for the stars shone with a brilliance such as Younghusband had never seen, even in the Himalayas, and the Milky Way was like a bright phosphorescent cloud. The days were often disagreeable, with winds and heavy rain.

On May 20 and 21 Younghusband passed through the district known as the Galpin Gobi, and crossed the track of the traveller Prjévalsky, who wrote of it, 'This desert is so terrible that in comparison with it the deserts of Northern Tibet may be called fruitful.' But Younghusband got safely through, and reached the Bortson Well on the 22nd. That evening one of his camels broke loose, threw its load (luckily), and bolted into the darkness ; but among the Hurku hills he was able to buy two fresh ones from a Mongul yurt. On the 23rd he was overtaken and passed by a caravan of 140 camels, carrying clothes, boots, and rifles to Guchen.

On June 3 a terrific dust-storm blew up suddenly from the west, and the travellers had to dismount and lie at full length behind the baggage. Fortunately they were on a gravel plain with no sand to drift over them ; but the small pebbles were driven hard against them and hurt them considerably. Two days afterwards they reached the sand-hills, a most remarkable range called Hun-kua-ling, forty miles in length, a heap of white fantastically shaped hills rising to 900 feet, and without a trace of vegetation upon



The travellers started at 5 P.M. and marched till midnight.
(From Younghusband's '*The Heart of a Continent*'; John Murray.)

them. Beyond lay another sand range between two ranges of rocks; the plain below was covered with tamarisk bushes, but their roots were all laid bare by the wind, which 'seemed to have fought with and rent the very surface of the land, and the scene is one of indescribable confusion.'

On June 8, towards dark, after passing through the sandhills, the caravan was approaching another low range of hills, when the guide halted and advised Younghusband to get out his revolver, as these hills were a favourite resort of robbers. The advance was accordingly continued in fighting formation: Younghusband went first, on foot, with revolver in hand; the leading camel followed with his bell taken off, and the flanks were protected by the guide and Liu-san, who was heavily armed with a tent-pole. It was now quite dark and nothing could be seen but the dark outline of the hills against the sky, and not even the tingle-tingle of the familiar bell broke the death-like silence of the desert. When the range was actually reached, the guide again halted; the robbers, he said, had a nasty habit of rolling big stones down upon caravans going through the pass. So the travellers lay down in their sheepskins till daylight, taking it in turns to watch. The Mongol Mate-la said he had seen a horseman riding to the hill in the dusk, and Liu-san fired twice at others, who were perhaps imaginary; but nothing happened, and at 3.30 they advanced again, still with arms in hand, but without seeing any sign of an attack.

On the top of each hill was a cairn of stones, and by the dry bed of the river further on was a very large cairn and a lot of smaller ones, marking the place of a raid five years back, when a big caravan had been overwhelmed. All the silver was carried off, nine men were killed, and the rest were left to make their way across the desert on foot. The Mongols sighed with relief when they came to the end of this hilly country; but when a water-hole was reached at dusk the same armed and silent performance had to be gone through again. Beyond this was an open plain, where at midnight the camp was pitched in safety. There was no water within twelve miles, so Younghusband opened a bottle of sherry—one of two which he had brought on purpose for the worst part of the Gobi. He says that

he felt like a regular tippler in the delight with which he heard the pop of the cork and saw the wine gurgling out into the glass.

For a week after this the route lay within sight of the Altai Mountains, a range 9000 feet high with new-fallen



'Ma-te-la had to walk, leading the first camel.'

snow on their summits. On the 17th the travellers emerged once more from the hills on to another great plain, where they saw a number of wild asses, or horses of an ass-like species, with large heads and ears, and long thin tails like a mule's or donkey's. On the evening of the 18th the camels got completely bogged and it took a whole day to recover and rest them.

One evening after this Ma-te-la was suddenly seen to dash

on ahead at a great pace till he became a mere dot in the distance. Nine hours after the caravan reached a stretch of grass by a stream, where four tents were standing: and there was Ma-te-la, in his own home. He had served the guide for two years, but the old screw only paid him 15 taels (£3, 15s.), which came to about a penny a day. There would seem to be room for a trade union in the Gobi Desert!

On June 23, Younghusband reached the oasis of Ya-hu, and on the 25th he camped at Ulu-Khutun, where the road to Guchen branches off. The next day was a memorable one. he had halted by a spring and climbed a hill to get a look round; there were plenty of soft clouds about, and at first they were all that he saw. Then suddenly his eye rested on something only just distinguishable from the clouds; in a moment he had out his telescope, and there in the far distance was a great snowy range of mountains, the real Tian-Shan, or Heavenly Mountains, as the Chinese call them. 'My delight,' he says, 'was unbounded, for they marked the end of my long desert journey.'

But he was not nearly there yet, and the very next march was the most trying of the whole journey. He had to cross that part of the Gobi which is called the Desert of Zungaria, the most sterile of all. There was no path, no water, no fuel, no grass, absolutely nothing but gravel, so that it was of no use pitching camp. The ground gradually descended to a very low level, the sun was scorching, and the wind grew hotter and hotter, until the travellers shrank from it as from the blast of a furnace. There was nothing to be done but to go on, and on they went for nearly twenty-eight hours. In that time they had done seventy miles from camp to camp, and had come down nearly 4000 feet. Then at last they came to a kind of green park, with trees and long coarse grass. But even in this they could not sleep for the stifling heat and the plague of sandflies. 'That,' says Younghusband, 'was the most despairing time of my whole journey, and many times that night I accused myself of being the greatest fool yet created, and swore I would never go wandering about the waste places of the earth again.' But then came the first glimmer of dawn, and he saw again the snowy summits of the Heavenly Mountains rising above him.

He took courage and plodded on, crossing the Tian-Shan at last at a height of 8000 feet. The last mile or two of the pass was over soft green turf, and near the top there was a mass of flowers, chiefly forget-me-nots, a sight long to be remembered after the dreary gravel slopes of the Gobi Desert. And down the other side he pitched camp on a little grassy plot near a stream of cold clear water and under a small grove of trees. It was a perfect paradise; but what struck him most was the singing of the birds and the drone of the insects, for in the Gobi there was always a death-like silence.

On July 22 he passed Ching-Cheng, a small square-walled town standing in wheat-fields, and then, after one more stretch of desert, Hami was at last before him. At 11 A.M. on July 24 he reached an inn, and with unspeakable relief dismounted from his camel for the last time. He had done the 1255 miles of desert from Kwei-hwa-Cheng in just seventy days, in the last seven of which he had travelled 224 miles, including the passage of the burning Desert of Zungaria and the crossing of the Heavenly Mountains.

QUESTIONS

1. The travellers left their starting-place in the steppe country on April 26. Up till May 7 the country maintained its steppe character. After that it degenerated into desert. As one of the party walked, they went only at a walking pace. Estimate the distance across the steppe lands.
2. In which month did the sandstorm occur? From which direction did the wind come? In which direction was the sand carried by the wind?
3. Judging by snow on the summits of the Altai Mountains, what is the snow-line in lat. 42° in Central Asia, in the month of June?
4. What mishap to the camels in this region was of special interest in view of the arid nature of the country? Did it signify underground water?
5. If a man had 9 silver taels, and silver was worth 3s. an ounce, what would be its worth in English money? 1 tael = $1\frac{1}{4}$ oz.

4. TO KASHGAR AND YARKAND

Hami is a small town of only five or six thousand inhabitants, but it is a considerable trading centre, where Chinese, Mongols, Kalmaks, Turks, and men of other nationalities

meet together, coming in with large heavy travelling carts and strings of camels. Younghusband stayed here for four days, and made a new arrangement for his next stage. Camels being no longer needed, he resolved to go by cart this time, and in order to get along quickly without having to be perpetually urging on the servants, he made a contract with Liu-san. By this it was agreed that he himself was to be regarded as a piece of merchandise, to be delivered baggage and all at Kashgar within forty days. Liu-san was to be entirely responsible, and was to be paid 70 taels (about £17, 10s.) before starting, and 30 taels more if he reached Kashgar in the time. Also he was to receive two taels extra for every day he was in advance of time, and to lose two taels for every day over the forty.

This arrangement worked excellently. 'I became an impassive log,' says Younghusband, 'and enjoyed myself immensely. It was quite a new sensation to be able to lie lazily in bed while breakfast was being got ready; at the end of breakfast to find everything prepared for the start; and all the way through to have an enthusiastic and energetic servant constantly urging me to go on further and quicker.' The cart was a large covered one, called an *araba*, with only one pair of very high wheels; it was drawn by two mules and two ponies, one in the shafts and three tandem fashion in front. It carried 2000 lbs. of baggage and supplies, besides Liu-san, while Younghusband rode a pony most of the way.

The start was made on July 8 and was rather depressing, for the country seemed half dead—there were many ruined houses in the fields and hardly any people working. On the 9th the travellers reached a village with four inns; but the rooms were all infested by fleas, and Younghusband slept in the cart. Another inn, on the 11th, was full of soldiers, who were civil when they heard he belonged to 'the great English nation.' In that country they only know the names of three nations—the English, French, and Russian; and ours they always speak of as 'the great English nation.'

On July 13 the travellers passed through a narrow and precipitous gorge, between cliffs six or seven hundred feet high. They came to Pi-chan and then Liang-ming-Chang,

where they slept on the ground in the inn yard, as it was too hot even in the cart.

Fourteen miles further they descended another valley between very steep hills, composed entirely of clay, and absolutely barren. Here were the remains of many houses, destroyed by landslips. Beyond this gorge they came to open desert—a very curious desert, for it was covered with hundreds of wells: they were dug at intervals of twenty yards in long lines, each line a couple of miles in length. The wells were not round but oblong, about 3 feet broad and 7 or 8 feet long; one which Younghusband examined was 110 feet deep. Liu-san declared that they had been dug by a Chinese army besieging the town of Turfan, but Younghusband came to the conclusion that they were a means of irrigation and intended to lead the underground water down by stages to the lower part of the country.

He reached Turfan on the 17th, and dismounted at a shop where there was a fine-looking man who spoke to him in Russian, and shook hands. In a courtyard were spread some fine carpets, on which sat men in Turk dress. But no one spoke any language that Younghusband knew. Suddenly he overheard the word 'Hindustani.' He said at once 'Hindustani zaban bol sakta' ('I can speak Hindustani'), and they sent off for another man, an Afghan merchant who had travelled through a great part of India. He came immediately and had a long talk with Younghusband, explaining that the merchants were Andijanis, and the whole trade of the place was silk-making. Then tea was brought; it was Chinese, but Indian tea could also be bought in the town.

After this Younghusband walked about to see the shops, and again chanced upon a man who spoke Hindustani. This was an Arab Hajji or pilgrim from Mecca: he had travelled through India, Afghanistan, Persia, Egypt, Turkey, and Bokhara, and was going next 'wherever Fate led him.' Some Turks, seeing the two travellers standing together and talking so keenly, very politely asked them over to a shop where there was a seat, and they then had a long talk. The Hajji had been at Herat the year before (1886); he pointed his two forefingers at each other and brought them together till they nearly touched—that, he

said, was how the English and Russians were then. Next, he let his forefingers slip past each other and lie parallel—that, he said, was how Russia and England were now. He then locked his two forefingers together, and said that was how England and the Amir of Afghanistan were. Of course that was in the days of the great Abdur Rahman, the father of Habibullah and Nasrullah. The Hajji himself seemed to have a high opinion of the British, and explained to the crowd outside who and what Younghusband was. Finally the courteous Turk provided a second tea; but the Arab for some reason would not take any.

At Karashar, which he reached on July 24, Younghusband found no one who could speak Hindustani; but he succeeded in buying another pony, a good cob with short back and legs and enormous quarters, but with pleasanter paces than his appearance suggested. The price was 20 taels, or £5, and as the animal was evidently a weight-carrier, Younghusband started hopefully in the evening. But in crossing a swamp not far from the town he fell into misfortunes. Three times the cart stuck; the first time it took three hours to get it out of the bog, with the aid of some Turks; at the third rut the animals were so exhausted that they had to be left till next day. In the morning the Turks tried again, and were successful; they each received a reward of twenty-five cents, and Younghusband also presented the man in whose house he had passed the night with some tea, sugar, candles, and matches. The Turk salaamed profusely; his old wife also appeared and bowed very gracefully, after which she produced a tray with some tea, bread, and flowers. A good traveller often finds charming hosts.

At Aksu, on August 7, Younghusband engaged a Pathan guide to take him to Kashgar by one route, while the cart went by another. The Pathan, whose name was Rahmat-ulla-Khan, was an intelligent and adventurous fellow, never at a loss. On the second night out he billeted Younghusband in a Kirghiz encampment, where he found himself quartered in a tent with four very old ladies, one of whom was a great-grandmother, and the youngest a grandmother. They examined his kit with great interest, and when he took off his boots they spied holes in his

socks, whisked them away immediately, and mended them. After this they said their prayers—they always appeared to be praying. They all dined on curds and milk and a little bread.

Two days later the travellers reached an encampment of six tents where they had a very different reception. A very surly owner agreed to take them in. By the tent door was a huge fierce-looking eagle, tethered by the leg : one of those which the Kirghiz keep for hawking, and with which they capture even small deer. Younghusband was relieved when he got past the savage doorkeeper safely, and still more when he left it and its surly master next day. But the next camp was even more dangerous, and when morning came, a crowd of Kirghiz collected, gesticulating wildly and refusing to let Younghusband pass further through their country. They said no European ever had passed through it, and none ever should. But Rahmat-ula-Khan managed them with great skill : he smiled and smiled and kept on talking to them very quietly, first letting them exhaust their energy and then arguing himself. He said his master had come direct from Peking with a passport from the Emperor of China, so that if anything happened to him they would have Chinese soldiers swarming over their country. Then more cunningly still he went on to say that as far as he was concerned it was a matter of indifference whether they let the Englishman go through or not ; but looking at the question from an outside point of view it certainly seemed wiser to pass him on to the next place, and so end the matter. Gradually the Kirghiz allowed themselves to be persuaded by Rahmat-ula-Khan, and Younghusband went on his way in peace.

He now marched hard to get out of their country, and the same day he reached the great central plain of Turkestan again. From there he saw a sight which at first struck him dumb with wonder—a line of snowy peaks apparently suspended in mid-air. They were the Pamir Mountains, one of them 25,000 feet high and another 22,000 feet ; but they were so distant, and the lower atmosphere was so laden with dust, that their bases were hidden and only their snowy tops were visible. They were a welcome

landmark to Younghusband, for it was on this side of them that he would turn off to the left for India.

The next day—the fortieth—he reached Kashgar exactly up to time, and was at last on the fringes of civilisation. There he had plenty of talk with the Russian consul, with the Afghan Aksakal or trade representative—who knew all about India, and talked much of different kinds of rifles and revolvers—and with some Afghan merchants who had fought against us in past wars, and greatly admired ‘Ropert’—as they called General Lord Roberts. They also admired the English soldiers for being ‘able to fight quite as well as the Afghans’! Liu-san now arrived with the cart, and the whole party started again for Yarkand, which they reached on August 29. Outside the town they were met by the Kashmir Aksakal and a number of Indian traders who had heard that an English officer was coming. ‘An Englishman,’ says Younghusband, ‘always gets a warm welcome from Indians in foreign countries.’ In the best Chinese inn the chief room had been made ready for him: carpets, chairs, and tables had been brought from the Aksakal’s own house, and the merchants kept sending in large plates and baskets piled with fruit.

On entering the town Younghusband received a letter from Colonel Bell, written on the Karakoram Pass, and advising him instead of following him along the well-known and dull route, to try the direct and unexplored road by the Mustagh Pass and through Baltistan and Kashmir. This suggestion delighted Younghusband, for it showed him how to add to his journey a finish which would be quite novel. Accordingly, after calling on the Chinese Amban, or Governor, he began his preparations, in which he was cordially helped by the merchants, who gave him a sumptuous feast in a fruit garden, and formed themselves into a sort of committee for providing him with guides and ponies.

It was fitting that here in Yarkand so warm a welcome should be waiting for Younghusband, for his uncle, Robert Shaw, had been the first of all Englishmen to visit the place. He had come there disguised as a merchant with a caravan, and had been joined by another famous explorer, Hayward. They both succeeded in getting back from Yarkand to India, and Shaw was afterwards sent there by the Govern-

ment as Political Agent. His house was now no longer standing, but the people had been devoted to him, and Younghusband was refreshed once more by the memory of the man to whom he owed the greatest impulse of his life.

QUESTIONS

1. What weight did the *araba*, wheeled vehicle, carry? Compare it in size and carrying capacity with a railroad truck.
2. Twenty taels in 1885 equalled £5. What was the value of the tael then? Compare this value with the present value of the tael, as quoted in the financial page of the morning newspaper.
3. When Sir Francis Younghusband reached Yarkand, what proportion of the total width of Asia, roughly speaking, had he traversed?

5. THE MUSTAGH PASS

Younghusband left Yarkand on September 8. The party with which he intended to cross the Himalayas by one of the highest and most difficult passes in the world was a large one for a serious climb. First, there were thirteen ponies, with four Ladaki servants. One of these, named Droga, had been specially sent back by Colonel Bell, and was put in charge of the whole caravan. Then there were five Balti carriers; three of these had been taken by robbers and sold for slaves in Yarkand. Younghusband had bought them and set them free. Another of them was their headman, Wali, who was to act as guide: a short, thick-set man with an iron-grey beard, a prominent, rather hooked nose, and an expression of determination and proud indifference to danger. 'For him,' says Younghusband, 'I entertain a regard such as I do for few other men'; and he says this with good reason. But for Wali the Mustagh Pass would never have been crossed. The last of the party was Liu-san, the Chinese boy.

The expedition began by marching down the Yarkand River till they came to a side valley with a smaller river called the Surakwat. Some way up this, at about 15,000 feet, they crossed an outlying ridge and saw the Himalayas right before them—tier after tier of stately mountains, whose peaks reached 25,000, 26,000, and in one supreme case 28,000 feet. Below them lay the valley of the Oprang



Mustagh Pass.

(From Younghusband's 'The Heart of a Continent': John Murray.)

River, and when they had gone down this and turned a corner they looked up and found themselves right under a peak of appalling height, and in shape an almost perfect cone. It was the famous K.2, second only to Mount Everest, and here on the northern side, where it is literally clothed in glacier, the mountain slopes, rising above them some 14,000 to 16,000 feet, were covered with ice.

After getting the ponies with great difficulty and pain over a part of the main glacier, Younghusband camped there for the night, in the midst of a sea of ice, and held a council of war to decide which pass he should attack, for there were two, the Old Mustagh and the New Mustagh. No European had ever crossed either of them, and even the local inhabitants had long abandoned the Old pass, because of the ice which had pushed forward upon it. On reconnoitring the New pass, it was found to be impassable for ponies, so the guide suggested that they should leave the ponies behind and try the Old Mustagh on foot. This was a very anxious moment for Younghusband, for the decision lay with him, and if the pass proved too much for the climbers they would have to march back 180 miles through the mountains with only three or four days' supplies.

He determined to stake everything on the chance. The ponies were left in charge of Liu-san and some of the older men, and at dawn, after a breakfast of tea and bread, Younghusband, Wali, Droga, and the rest started up the pass. It took six hours to reach the top, and then they found themselves looking down a sheer precipice. They had no nailed boots, no proper boots at all, no ice-axes, and no Alpine experience. They were within an inch of giving up. What saved them was the fact that Younghusband held his tongue. As he looked over the pass in silence the men watched him, and imagining that an Englishman never turned back from anything, they took it as a matter of course that he meant to go on. Wali was roped and went ahead, cutting steps in the ice with a pickaxe, and the rest followed with their soft leather boots slipping on the wet melting surface. The position was terrible and it broke poor Droga's nerve: he trembled violently and stopped short, though he was a hillman born. Younghusband laughed off

his own dismay and told Droga to go to the ponies, while the rest pushed on.

At last, after six hours of this work on rock and ice as steep as the roof of a house, and with hardly any foothold or handhold, Wali got the remainder of the party down just as the sun set. The danger was over, and success assured. 'Such feelings as mine were now,' says Younghusband, 'cannot be described in words, but they are known to everyone who has had his heart set on one great object and has accomplished it. I took one last look at the pass, never before or since seen by a European, and then we started away down the glacier to find some bare spot on which to lay our rugs and rest.'

The sun had now set, but the night was marvellously beautiful, the moon nearly full, the sky cloudless, and in the amphitheatre of snowy mountains not one speck of anything but the purest white was visible. The travellers pushed on, and presently the situation took a more comic turn. One of the men was missed; they went back and found him fifteen feet down a crevasse, comfortably wedged in by the load of bedding which he had been carrying. He was rescued with the help of a rope. He went ahead, and Younghusband soon detected a strong smell of brandy coming from the bedding. He tore open the bundle, and found to his dismay that his one bottle of brandy, given him by Lady Walsham and carried all this way for a supreme emergency, was broken to pieces. The bedding had been thrown over the pass as it could not be carried down, and though the bottle was packed in a sheepskin sleeping bag, it had failed to survive the shock.

Next day they reached the village of Askoli, and a party went back with supplies for Liu-san and Droga; they succeeded in getting over the pass again, though with three men badly injured. As for Younghusband, the insatiable explorer, he set out to try the New Mustagh pass from this side; but fortunately his extravagant ambition proved to be quite unrealisable, so he went on with his journey towards India through Baltistan to Srinagar, in the valley of Kashmir.

After one day's rest he hurried on, for it was November 2, and his seven months' leave were all but up. He reached

Murree, his own birthplace, by three marches and a ten-mile ride, and the day after he drove the last thirty-nine miles into Rawal Pindi, reaching the mess-house of his

regiment on November 4, exactly as he had hoped to do when he left Peking on April 4. Six weeks later came Liu-san, to whom had been due in no small degree the success of this unparalleled journey.

For this exploration, begun when he was still only twenty-three, Young-husband was in 1890 awarded the Gold Medal of the Royal Geographical Society, and was probably the youngest traveller who ever received that coveted distinction.



A Tibetan emissary.

6. THE MISSION TO TIBET.

Where and what was Tibet? Not many people could have given an answer of any value. Tibet was north of the Himalayas, but it was both an unknown and a forbidden land. For hundreds of years the Tibetans had been growing more and more determined to admit

no foreigners to their country, and especially to their sacred city of Lhasa. Three times in three centuries the Jesuits had made their way in, but they had always been expelled. Three Englishmen had attempted the journey between the years 1774 and 1822, but only one of them, Thomas Manning, got as far as Lhasa, and he brought back few notes of any

value. Two Jesuit fathers got through from China in 1846, but were expelled and sent back to China. The people and traders of Tibet were friendly enough, but the Lamas or priests who ruled them were narrow-minded men, afraid of losing their own influence if Lhasa came into touch with the outside world. Younghusband's objective was the defeat of their obstruction and ill-will. His business was to insist on negotiating in Lhasa itself, and to make a treaty there which should not be a treaty of conquest, but a basis for future good relations between India and Tibet. The following is a description of the city as he saw it.

7. A DESCRIPTION OF LHASA

'It was about half-past one in the afternoon, and a light blue haze was settling down in between the ravines of the far-distant mountains. . . . The sun was merciless in a whitened sky. Then, as we rode on, it came . . . across and beyond the flat fields of barley, a grey pyramid disengaged itself from behind the outer point of the grey concealing spur—Lhasa.'

The next day Younghusband entered the city, which was disappointing from within: houses, streets, and inhabitants were dirty, and the temples, though massive and imposing, were not beautiful. The palace of the Dalai Lama, known as the Potala, however, made up for all other deficiencies. It was a huge building of granite, bold and simple in style, nine hundred feet long, crowned with a golden roof that gleamed in the light. 'The Potala,' says Landon, 'would dominate London; Lhasa it simply eclipses.'

8. THE SIGNING OF THE TREATY

The scene inside the Potala was a strange one. On the left of the Durbar Hall stood the British and Indian officers and men, all in sober fighting uniforms. Opposite them were the Tibetans, the councillors in yellow silk robes,

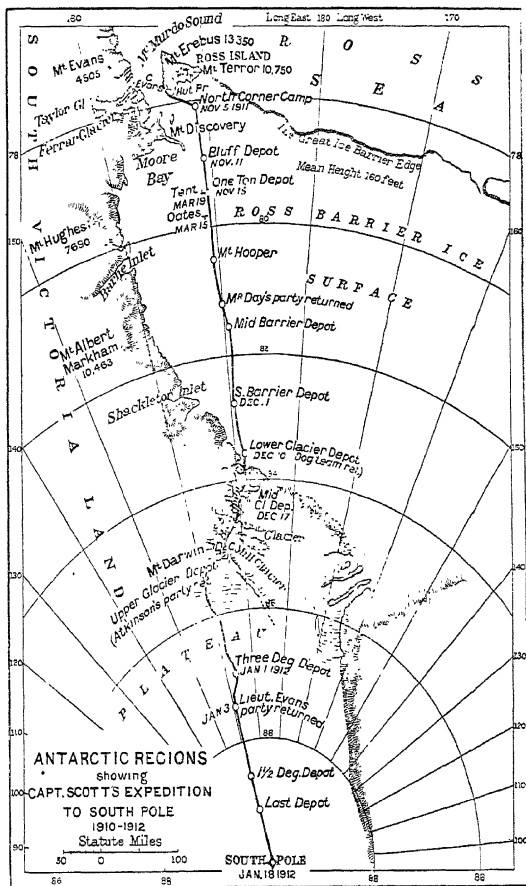
others in bright colours, with Bhutanese also in brilliant dresses and quaint headgear. Between the two parties was the Amban, who advanced to greet the British Commissioner; he had with him his own staff in full official costume, and the Regent, the Ti Rimpoche, was by his side, in the severely clerical dress of a Lama. The pillars and roof beams of the hall were rich with colour, and an immense silk curtain, gorgeously embroidered, was hung across it as a background to the chairs of state. Over all there was a soft hazy light, not from side windows, but from a great skylight covered with coloured canvas.

The Amban took his seat in the centre, between the two high contracting parties, the Commissioner on the right and the Ti Rimpoche on the left. Tea was served and dried fruits, and then Colonel Younghusband caused the Treaty to be read aloud in Tibetan. The process of sealing then began. The Ti Rimpoche affixed the Dalai Lama's seal, and the Commissioner, having sealed and signed the document, handed it to the Ti Rimpoche, saying that a peace had now been made which, he hoped, would never be broken.

VI. ROBERT SCOTT

IN 1899 Sir Clements Markham, then President of the Royal Geographical Society, was actively engaged in furthering the exploration of the unknown Antarctic Continent. For leader of the proposed expedition his choice fell upon Captain Robert Falcon Scott, R.N., whom he describes as 'a rising naval officer, able, accomplished, popular, highly thought of by his superiors, and devoted to his noble profession.' It was a serious responsibility, says Sir Clements, to induce Scott to take up the work of an explorer; yet no man living could be found who was so well fitted to command a great Antarctic Expedition.

The voyage was a complete success; Scott's discoveries were of great importance. He surveyed the Barrier Cliffs



and sounded, along them, discovered King Edward Land, Ross Island and the other volcanic islets, and examined the Barrier surface. But his most interesting and important work was the discovery of the Victoria Mountains, a range of great height and many hundreds of miles in extent; and the remarkable journey towards the Pole, by which he ascertained that the South Pole occurs in the middle of a huge ice cap. But his equipment did not enable him to reach it on this occasion, and whatever he may have resolved about the future, on his return to England the Navy claimed his services, and he spent the next five years in serving ashore at the Admiralty and at sea.

In 1910 he was once more free to accept the command of an expedition. The object this time was mainly scientific, to complete and extend his former work in all branches of science. For this his ship, the *Terra Nova*, was completely equipped—more completely, both as regards men and material, than any that had ever left these shores; and the success of the expedition was proportionate. This time it was also part of Scott's plan to reach the South Pole, not only to make good his own belief that 'there is no part of the world that *can not* be reached by man,' but to achieve scientific results on the way, especially by investigating the geological formation of the great mountain range which he had discovered before. Public service and personal distinction—these were the desires which moved him, and how he thought of them may be seen from the quotation from Sir Humphrey Gilbert, which he wrote on the fly-leaf of his MS. book. 'He is not worthy to live at all, who for fear and danger of death shunneth his country's service or his own honour, since death is inevitable and the fame of virtue immortal.'

QUESTIONS

1. What letters after an officer's name signify that he is an officer in the Royal Navy?
2. Which inhabited land is nearest to the South Pole?
3. Which country of the British Empire is nearest to the South Pole?

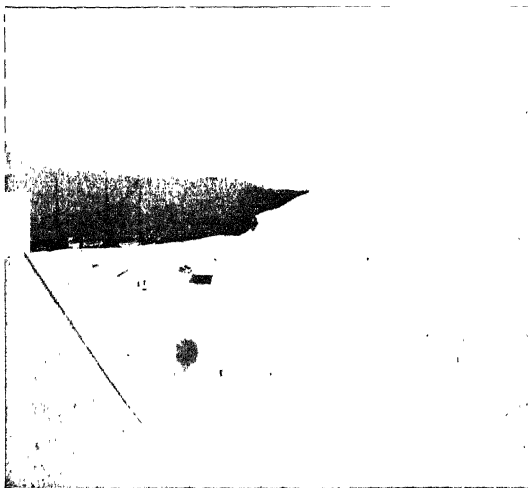
I. THE SECOND VOYAGE TO THE ANTARCTIC

The *Terra Nova* sailed first for New Zealand, where she arrived early in November 1910. Scott's officers were Lieutenant Edward Evans, Lieutenant Victor Campbell, Lieutenant Henry Bowers, Captain Lawrence Oates, and Surgeons Levick and Atkinson. His scientific staff were Dr Edward Wilson, zoologist; Apsley Cherry-Garrard, assistant zoologist; Dr George Simpson, meteorologist; Messrs Taylor, Nelson, Debenham, Wright, and Priestly, geologists, biologists, and physicists; Herbert Ponting, camera artist; Cecil Meares, in charge of dogs; Bernard Day, motor engineer; and Tryggve Gran, a Norwegian naval officer, ski expert.

The expedition left New Zealand on November 26, and on the last day of the year they sighted the great Antarctic mountains at a distance of 110 miles—beautiful peaks lying in the sunshine at 10 o'clock of a November evening. Three days later they reached the Barrier—the vast sheet of ice, over 400 miles wide and even more in depth, which lies south of Ross Island and bars the sea-way to the Pole. The Barrier was here sixty feet high, so that landing was impossible, but Scott coasted along to a point where he had erected a hut during his previous voyage in the *Discovery*. Cape Armitage, the point was called, but he now renamed it Cape Evans, in honour of his second in command, Edward Evans, and there the expedition landed, motor sledges, ponies, dogs and all, taking a week over the work. A new hut was at once built, and a line of depots begun on a line running due south towards the Pole. There were eventually between Cape Evans and the Pole twelve of these depots, and their names and order must be given here, for they are the key to the story which follows. Taking them in the outward order they were these: Corner Camp, from which the start was to be made, Bluff Depot, One Ton Depot, Mount Hooper Depot, Mid-Barrier Depot, South Barrier Depot—these were all on the comparatively level top of the ice field. Then came the ascent of the 10,000-foot glacier among the mountains: Lower Glacier Depot, Mid-Glacier Depot, Upper Glacier Depot. Then the final plateau to the Pole,

which is itself 9500 feet above the sea: Three Degree Depot, $1\frac{1}{2}$ Degree Depot, and Last Depot. Of these twelve depots of course only the first few could be made ready before the actual journey.

Meantime the building operations having been carried to an unexampled point of perfection, the scientific observers



The Great Ice Barrier.

(From Scott's *Voyage of the "Discovery"*: John Murray. By kind permission of Mrs Hilton Young.)

got to work, and for ten months the whole party led a busy and harmonious life. They had, of course, some difficulties and accidents, and one real shock. On February 22, a letter reached Scott from Lieutenant Campbell, who was prospecting to the east in the Bay of Whales, announcing that he had found there an expedition of Norwegians under Captain Amunsden, who was bent on being the first to reach the South Pole. Scott grasped the truth of the

situation at once, and acted with perfect judgment. The Norwegians had gained what looked like a winning position—Amunsden had chosen a starting-point where he was sixty miles nearer to the goal, and had succeeded, against all likelihood, in getting his sledges and dog teams safely ashore there. He had also the advantage of being able to move earlier in the season, for dogs could be used when ponies could not, and Scott had given up his dogs in favour of ponies, since he found that their pulling power was not sufficient for his route.

With all this in his mind, many a man would have been drawn into a premature and dangerous rush. Scott decided at once to go on 'exactly as though this had not happened—to go forward and do our best for the honour of the country without fear or panic.' Six months afterwards he was still of the same mind: 'Any attempt to race must have wrecked my plan; besides which it doesn't appear the sort of thing one is out for. . . . After all, it is the work that counts, not the applause that follows.'

But he meant to be first if he could, and in these ten months he made every kind of preparation and experiment that he could devise to lay the ground for success. His final plan was an elaborate one, and it was thought out in every detail. The motors were to go ahead as far as they could—he did not in his heart expect much of them—then the ponies were to take up the running, and when they had to give up, the dogs were to carry on with lighter loads. When the dogs were no longer useful, the party was to be weeded out, and the fittest and strongest were to drag the last sledge themselves, either on ski or on foot, till they had reached the Pole, turned, and come back from depot to depot to where the dogs would be waiting for them. At each depot they would pick up the fresh fuel and food which they had left in store there.

There remained only the choice of the men for each part of this work. Scott had from the first been struck with the extraordinary efficiency and cordiality of all his people; there was—though he admits that it sounds incredible—simply no friction at all: 'There is no need to draw a veil; there is nothing to cover.' All were first-rate; and if they had not been first-rate to begin with,

Scott's own character and his generous admiration of everyone but himself would soon have made them so. Of Wilson he writes: 'Words must always fail me when I talk of Bill Wilson. I believe he really is the finest character I ever met—every quality is so solid and dependable; cannot you imagine how that counts down here? Whatever the matter, one knows Bill will be sound, shrewdly practical, intensely loyal, and quite unselfish.' In addition, he says that Wilson had a quiet vein of humour and really consummate tact.

Bowers he describes as 'a positive treasure, absolutely trustworthy and prodigiously energetic . . . nothing seems to hurt his tough little body, and certainly no hardship daunts his spirit. His indefatigable zeal, his unselfishness, and his inextinguishable good humour made him a delightful companion on the march.'

The Soldier, or Titus Oates, as he was also called, was very popular too. 'A delightfully humorous old pessimist—striving with the ponies night and day, and bringing woeful accounts of their small ailments.'

So with the rest, and not less with the men than the officers. Scott understood them all, because he loved human nature. 'The study of individual character,' he writes, 'is a pleasant pastime in such a mixed community of thoroughly nice people, and the study of relations and interactions is fascinating.' Of his own character we can judge from the wonderful Journal in which he recorded his admiration of others; but there are plenty of witnesses to confirm it. 'From all aspects,' says Sir Clements Markham, 'Scott was among the most remarkable men of our time, and the vast number of readers of his Journal will be deeply impressed with the beauty of his character.' To this his surviving companions add that even among so many experts his ability seemed extraordinary; his care and thoroughness in detail were unfailing: he was both firm and considerate, and that they estimated him truly is proved by their speaking of 'his absolute generosity.'

One more quality he had, most valuable in a leader. He was hopeful, but never too optimistic. He saw the meaning of a misfortune quicker than anyone, but he often recorded it quietly without commenting aloud.

He was able to do this because he was never afraid ; he had calculated his risks, done his best to provide against them, and was ready to accept the result. His last entry before starting for the Pole ends thus : 'The future is in the lap of the gods ; I can think of nothing left undone to deserve success.'

QUESTIONS

1. They passed Ross Island at the end of the year. Ross Island is on the 78th parallel of south latitude. How far, roughly, had they to go, to reach the South Pole ? (1 minute of latitude is approximately 1 geographical mile.)
2. What effect would the high altitude of the South Pole have upon its climate ?
3. Do the Magnetic and True Poles coincide ?

2. THE TALE OF TEN PONIES

Scott left Cape Evans on November 1, and reached the Beardmore Glacier on December 10—a distance of 276 statute miles. The story of this first stage of the journey is the story of the ten ponies upon whose well-being so much depended. Depots of food and fuel had to be dropped and cairns erected all the way out, so that the party returning from the Pole would pick up supplies every few days.

They started off well. One pony, Christopher, objected to being harnessed, and Nobby had to have his load rearranged once ; but they all arrived fresh and in good time at Hut Point, the first camping place. Scott found that the individual ponies varied so much in pace that he arranged them henceforth in three parties : the slow, the medium paced, and the fliers.

Snatcher, who led the last-named group, was to start last, and would probably even so end up in front of them all. There was also a party with the dogs ; and the motors had gone on ahead.

On Thursday night, November 2, the expedition left Hut Point in detachments as arranged. They lunched at midnight, and Ponting got his cinematograph up in time to take the rear guard as it came along in fine form with Snatcher leading. At the next camp the ponies

mostly arrived very tired, but were quite fit again after their rest. Bones created a disturbance by eating Christopher's goggles and the protecting leather fringe on the bridle, and poor Christopher was left blinking in the sun. The party started again at 1 P.M. It was then, Scott tells us, 'a sweltering day, the air breathless and the glare intense.' And yet the temperature was -22° , and six hours earlier he had had a frost-bitten thumb.

The following day a cheerful note was picked up saying all was well with the two motors, which had gone on ahead with two sledges apiece. But four and a half miles farther on Scott's party found Day's motor, sledges and all, abandoned in the track, and a note to say that a cylinder had broken, and the only spare one having been already used, Day and Lashly, the drivers, had pushed on with the other motor. 'So,' writes Scott, 'the dream of great help from the machines is at an end. The track of the remaining motor goes steadily forward, but now of course I shall expect to see it every hour of the march.' It was as he feared. On Sunday, November 5, three black dots were seen to the south, and on Monday, when the party got up to them, they proved to be the motor and two sledges abandoned like the first one. Another cracked cylinder was the cause of the trouble, and the drivers had had to leave the machine and go ahead as a man-hauling party.

On this day the ponies did splendidly with full loads. They were evidently getting hardened to the work, and everyone, even Oates, felt cheered and optimistic about them. But on Monday night a blizzard blew up which lasted till late on Tuesday afternoon. There was a heavy fall of snow, and though everything possible was done to shelter the ponies, there seemed no way of making them comfortable. A blizzard always had the same withering effect on them, attributed by Scott to the excessively fine particles of snow being driven in between the hairs of the coat, where it melts, and in running off as water, carries away the animal heat. However, at midnight when their rugs were taken off, they started again quite briskly and appeared none the worse. The weather improved, the surface was good and they drew their heavy loads without any sign of tiredness. Most of them stopped occasionally

for a mouthful of snow, but Christopher, though more tiresome than ever to harness, went ahead when once he started without any pause. Both men and ponies revelled in the warm sun, and everyone was fit and cheery.

On the 10th, weather conditions again became bad. A strong headwind and a snowstorm made progress very slow and difficult. On the 12th, Atkinson said Chinaman, one of the less good ponies, could not last more than a mile or two, but Oates thought he would carry on for several days still. The others were as well as could be expected,



‘The ponies mostly arrived very tired.’

and Jehu, another crock, better than anyone had thought possible. But even One Ton Depot was still seventeen or eighteen miles ahead, and Scott began to feel very anxious about the ponies. ‘If they pull through well,’ he wrote on the 13th, ‘all the thanks will be due to Oates. I trust the surface and weather conditions will improve.’

One Ton Depot—130 geographical miles from Cape Evans—was reached on the 15th. It was decided to give the ponies a day’s rest and then push on again thirteen geographical miles a day, marching, as before, mostly at night. Oates was only fairly cheerful about the ponies—Scott decidedly more hopeful. The loads were rearranged

and the stronger ponies were again given about 500 lbs. apiece to pull ; the other about 400 lbs.

On the 18th, Scott writes : ' The crocks are going on very wonderfully. Oates gives Chinaman at least three days, and Wright says he may go for a week.'

On the 19th the going was very bad, but things improved on the 20th, and the animals marched steadily that day and the next. Meares, the leader of the dog team, was beginning to look eagerly for some horse flesh to feed his dogs, but Atkinson and Oates were set on getting past the place where Shackleton killed his first animal before they should have to shoot one of theirs.

On the 22nd, Scott writes : ' Everything much the same. The ponies thinner but not much weaker. The crocks still going along. Jehu is now called " The Barrier Wonder " and Chinaman " The Thunderbolt." Two days more and they will be well past the place where Shackleton killed his first animal. Nobby keeps his pre-eminence of condition and has now the heaviest load by some 50 lbs. ; most of the others are under 500 lbs. load, and I hope will be eased further yet. The dogs are in good form still, and came up well with their loads this morning. It looks as though we ought to get through to the Glacier without great difficulty.'

On the 24th, when they were still some 135 geographical miles from the Glacier, Jehu was led back on the track and shot, on the whole a merciful ending. The other two crocks, Chinaman and Jimmy Pigg, were working splendidly and seemed, if anything, to improve, and things went fairly well till the 27th, when a heavy fall of snow and a soft surface tired the animals badly. There was no improvement the next day. The blizzard continued and drove the snow full in their faces. Chinaman had to be shot that night, but the others, though tired, had still some days' work in them. The Glacier was now about seventy miles ahead, and Scott was most anxious to get them as far as that if possible.

On the 29th the sky cleared, the sun came out and land could be seen ahead, but the surface was very soft and the ponies frequently sank up to their knees. On December 1, Scott wrote : ' The ponies are tiring pretty rapidly.

It is a question of days with all except Nobby. Yet they are outlasting the forage, and to-night, against some opinion, I decided Christopher must go.'

The next day, after another trying march partly in falling snow, Victor too was shot and fed to the dogs.

On Sunday, December 3, the party woke to yet another blinding blizzard and could not start till it had cleared at 2 P.M. Before 3 the sun disappeared and snow fell thickly again. The weather conditions were, as Scott said, preposterous, and the changes perfectly bewildering in their rapidity. Everything seemed to be going against the expedition and every mile of advance had to be fought for. A fresh blizzard again delayed the start on the 4th till 2 P.M., but the daily distance of thirteen geographical miles was made good by 8 P.M., and the ponies marched splendidly. Nevertheless, Michael had to be shot in the evening to provide food for the dog team, and the men, too, thoroughly enjoyed a meal of hot pony hoosh. Only five or six miles had been lost on the two very bad days, and with any luck all would yet have been well, but on the 5th the party woke once more to a blizzard. The misfortunes of the next four days are best told by extracts from Scott's own diary.

'*Tuesday, December 5.*—Camp 30. Noon. We awoke this morning to a raging, howling blizzard. The blows we have had hitherto have lacked the very fine powdery snow—that especial feature of the blizzard. To-day we have it fully developed. After a minute or two in the open one is covered from head to foot. The temperature is high, so that what falls or drives against one sticks. The ponies—head, tails, legs, and all parts not protected by their rugs—are covered with ice; the animals are standing deep in snow, the sledges are almost covered, and huge drifts above the tents. We have had breakfast, rebuilt the walls, and are now again in our bags. One cannot see the next tent, let alone the land. What on earth does such weather mean at this time of year? It is more than our share of ill-fortune, I think, but the luck may turn yet.

'11 P.M.—It has blown hard all day with quite the greatest snowfall I remember. The drifts about the tents are simply huge. The temperature was $+27^{\circ}$ this

forenoon, and rose to $+31^{\circ}$ in the afternoon, at which time the snow melted as it fell on anything but the snow, and, as a consequence, there are pools of water on everything, the tents are wet through, also the wind clothes, night boots, &c. ; water drips from the tent poles and door, lies on the floor-cloth, soaks the sleeping bags, and makes everything pretty wretched. . . . Yet after all it would be humorous enough if it were not for the seriousness of delay—we can't afford that, and it's real hard luck that it should come at such a time

' *Wednesday, December 6*—Camp 30. Noon. Miserable, utterly miserable. We have camped in the "Slough of Despond." The tempest rages with unabated violence. . . . The ponies look utterly desolate. Oh! but this is too crushing, and we are only twelve miles from the Glacier. A hopeless feeling descends on one and is hard to fight off. What immense patience is needed for such occasions.

' *Thursday, December 7*.—Camp 30. The storm continues and the situation is now serious. One small feed remains for the ponies after to-day, so that we must either march to-morrow or sacrifice the animals. That is not the worst ; with the help of the dogs we could get on without doubt. The serious part is that we have this morning started our Summit rations—that is to say, the food calculated from the Glacier Depot has begun. The first supporting party can only go on a fortnight from this date and so forth.

' *Friday, December 8*.—Camp 30. Hoped against hope for better conditions to wake to the mournfullest snow and wind as usual. . . . Our case is growing desperate. . . . Wilson thinks the ponies finished, but Oates thinks they will get another march in spite of the surface, *if it comes to-morrow*. If it should not, we must kill the ponies to-morrow and get on as best we can with the men on ski and the dogs.

' 11 p.m.—The wind has gone to the north, the sky is really breaking at last, the sun showing less sparingly, and the land appearing out of the haze. . . . Everything looks more hopeful to-night, but nothing can recall four lost days.'

Early the next morning a start was made at last, and Camp 31 was reached at 8 P.M. The ponies were by then quite done, and were all shot that night. 'Thank God,' wrote Wilson, 'the horses are now all done with and we begin the heavy work ourselves.'

QUESTIONS

1. If a statute mile is 5280 feet, and a nautical mile is 800 feet longer, by what fraction of a mile does one exceed the other (approx.)?
2. They lunched at midnight on November 2. Would this be by artificial or sunlight?
3. Temperature -22° Fahrenheit. How many degrees below freezing point was this? At this temperature, would the air be moist—or dry?
4. The cylinder of the motor engine cracked. The outside of the cylinder wall was in contact with the ice-cold air. Inside the cylinder, explosions of gas were occurring at high temperature. Consider this great difference of temperature, and suggest a cause for the cracking of the cylinder.
5. 130 geographical miles. How many statute miles was this?
6. Temperature $+27^{\circ}$: how many degrees below freezing point is this? Which is the fine-weather wind in the Antarctic in November? Consider where this wind comes from and what its character would be.

3. AT THE SOUTH POLE

The ex-motor party had already turned back on November 24, and three man-hauled sledges left Camp 31, on December 10; the first was drawn by Scott, Wilson, Oates, and Edgar Evans; the second by Edward Evans, Atkinson, Wright, and Lashly, and the third by Bowers, Cherry-Garrard, Crean, and Keohane. The dogs, drawing another 800 lbs. of stores, accompanied them until the afternoon of the 11th, and then they, too, turned back.

From Lower Glacier Depot, left on December 11, the three sledge parties climbed steadily up the Beardmore Glacier and reached the summit, 8000 feet up, on the 21st. It was a heavy pull to begin with. The runners of the sledges became coated with a thin film of ice so that they would not glide, and both men and sledges sank deep into the soft snow which, owing to the recent storm, filled the

lower valley. Again and again the parties got bogged, and they would not have made any headway at all but for their skis, which now proved invaluable. One or two members of the expedition began to show signs of being over-tired, and to add to their other troubles some of them got bad attacks of snow blindness. On the 13th, two of the parties had to resort to relay work. The snow had become wet and sticky and the men struggled on soaked in perspiration and thoroughly breathless. By camping time at 7 P.M. only a bare four miles had been covered.

The next day things improved a little. The covering of snow over the ice grew thinner as they mounted, there were fewer stoppages, and the re-starting was much easier. But on the 15th snow fell again for some hours, interrupting the march and making the surface again very bad.

On the 17th the luck really seemed to be on the turn. They were now 3500 feet above the Barrier and the going was better, though a sharp look-out had to be kept for crevasses, which were very numerous in some places. Apart from sore lips and snow blindness everyone was very fit and cheerful and feeling well fed, for the Summit ration proved an excellent one and most satisfying. The crampons, too, invented by P.O. Evans for this part of the journey on the rough ice, were a great success.

On the 19th, Scott wrote: 'Days like this put heart into one.' On the 21st they camped at Upper Glacier Depot, 'practically on the summit and up to date in the provision line.' There seemed a very good chance now of getting through.

On the 22nd the first supporting party turned back. Scott had told off Atkinson, Wright, Cherry-Garrard, and Keohane as being the four who had suffered most from the hardships of the journey. Nevertheless their disappointment was great. The two remaining sledge parties went ahead very well to begin with, doing $10\frac{1}{2}$ and $8\frac{1}{2}$ geographical miles in the day. Crevasses were troublesome at times, but on the whole Scott was very cheerful, and for the first time the goal seemed really in sight. He found that he and his companions could pull

their present loads faster and farther than he had ever expected, and a fair share of good weather was the one thing left to pray for.

On Christmas Eve Lashly very suddenly went down a crevasse, nearly dragging the others with him. But he was rescued none the worse and quite undisturbed by his fall. Christmas Day was marked by chocolate and raisins at lunch and a grand four-course supper of 'pemmican with slices of horse meat flavoured with onion and curry powder and thickened with biscuits; then an arrowroot, cocca and biscuit hoosh sweetened; then a plum-pudding; then cocoa with raisins, and finally a dessert of caramels and ginger.' After this feast it was difficult to move, and everyone felt thoroughly warm and slept splendidly.

During the next few days more crevasses and disturbances were met with and something went wrong with one of the sledges. The loading was not right and had to be readjusted. Once this was readjusted the second party were able to keep up again. The distances covered each day were satisfactory, but the marches were becoming terribly monotonous, and the strain was especially great for Scott, who was responsible for steering the course and so could not let his thoughts wander.

On December 31 a week's provisions for both units was dumped and the place named Three Degree Depot. Then the two sledges were stripped and rebuilt as 10-foot instead of 12-foot sledges. Under the conditions, with a temperature of 10°, it was a difficult and trying job, and was admirably tackled and completed by P.O. Evans with the help of Crean. The smaller sledges travelled well, but the second party were clearly tiring now, and on January 3, when they were still 150 miles from the Pole, Scott reorganised for the last time and sent back Lieutenant Evans, Lashly, and Crean. Bowers was to make a fifth in Scott's tent. Lieutenant Evans was terribly disappointed, but took it very well. Poor Crean wept, and Lashly, too, found it very hard to have to turn back. The story of their awful experiences on the return journey, and of Evans' illness and rescue, may be read elsewhere.

Petty Officer Evans belonged to the chosen five. He

was a most admirable worker and was responsible not only for the ski and crampons but for all the sledges, harness, tents, and sleeping-bags, and no one had ever been heard to make a complaint about any of the things he had made.

Bowers was responsible for the stores and for the meteorological record. On this last part of the march he was also photographer and observer. No kind of work came amiss to him, and he used to work out sights coiled up in his bag at night long after the others were asleep, and yet, in spite of his short legs, he never seemed tired. Scott wrote of him on January 8: 'Little Bowers remains a marvel—he is thoroughly enjoying himself.'

Oates had been invaluable with the ponies, and now he took his share in all the heavy work, both of pulling and of making camp, and so far he seemed to be standing the hardships as well as anyone.

Of Wilson, Scott could not speak warmly enough. He never wavered from start to finish and, as doctor, devoted himself entirely to helping his companions in every possible way, often at great cost to himself. He suffered a good deal from snow blindness, but was invariably cheerful.

On Scott himself, as leader, rested the whole responsibility of the expedition and the lives of his companions. He had to make every decision connected with the march, from the minutest detail of food rations or clothing to the serious problems of direction and guidance. However tired or despairing he might feel at times, he must always appear cheerful and hopeful; he must be the first to wake in the morning and the last to turn in at night; and he must know how to get the very best out of his companions under all circumstances. Splendidly he fulfilled all these requirements; his companions had entire confidence in him and he in them.

Such were the five men who now pushed on towards the Pole with 150 miles of hard pulling in front of them and the chance of finding the Norwegian flag already flying when they arrived.

On January 4 and 5, things seemed to be going so extraordinarily smoothly that Scott began to wonder if such

good fortune could last, and what new obstacle was in store for them. Success seemed to be coming nearer and nearer every hour. But the expected obstacles soon made their appearance. The surface again became rough and broken as the result of a mass of *sastrugi*, the name given



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Sastrugi.

(From Scott's *Last Expedition*: John Murray.)

to the snow formations formed by the winds over the surface. The marches were very tiring, and P.O. Evans, too, had a nasty cut on his hand which he got while repairing the sledges.

They were now past Shackleton's farthest point, and all that was ahead of them was new. The marching became more and more monotonous, and on January 10, only

10·8 miles were covered in a terribly hard day's work. The surface was 'beyond words,' quite covered with sandy snow. 'Only 85 miles from the Pole,' says Scott, 'but it's going to be a stiff pull *both ways* apparently; still we do make progress, which is something.'

On the 11th, they did eleven miles. 'About 74 miles from the Pole—can we keep up this for seven days? It takes it out of us like anything.' On the 12th they marched nearly nine hours for 10·7 miles, and were all chilled from exhaustion. Admiration for each other kept them up. 'Little Bowers is wonderful,' says Scott; 'in spite of my protest he *would* take sights after we had camped to-night'; and this was the more remarkable because Bowers, one of whose ski had been lost, had marched all day in the soft snow while the others had had a comparatively easy time. On the 13th, Scott again remarks that though the rest would be in a poor way without ski, Bowers still manages to struggle through the soft snow 'without tiring his short legs.' Next day, however, he seems to have realised that the short legs *were* tiring, and in a single casual remark, his own strength and self-sacrifice are allowed to slip out as if they were nothing unusual. 'The steering was awfully difficult and trying; very often I could see nothing, and Bowers on my shoulders directed me. Under such circumstances it is an immense help to be pulling on ski.'

On the 14th, Oates was feeling the cold, but all were fit, and felt that they might pull through if only they could have a few days of fine weather. On the 15th, they made their last depot, and with the sledge load thus reduced they did over twelve miles in the day. They had now only two long marches to reach the pole, and nine days' provisions with them, so that it looked a certain thing. But there was always 'the appalling possibility, the sight of the Norwegian flag forestalling ours.' This dread had been sleeping in their minds all through, and now that the critical moment was upon them it woke up and became restless.

The next day, January 16, was a very trying one, tossing them from hope to deep disappointment. In the morning they marched well and covered seven and a half

miles. In the afternoon they set off again in high spirits but about the second hour of the march Bowers sighted what he feared was a cairn, though he argued that it must be a *sastrugus*, or knob of snow-drift. Half an hour later he detected a black speck ; that, at any rate, could not be snow. The party marched on it with beating hearts. When they got nearer they found that it was a black flag tied to a sledge bearer and standing straight up out of the



‘ They found it was a black flag tied to a sledge bearer.’

snow-field. We can imagine the mingled curiosity and dismay with which they examined the place ; near by were the remains of a camp, with sledge tracks coming and going, and ski tracks, and traces of dogs’ paws—many dogs. ‘ This told us the whole story. The Norwegians have forestalled us and are first at the Pole. It is a terrible disappointment, and I am very sorry for my loyal companions.’

But they finished the course ; that went without saying. Next day they started at 7.30 ; none of them had slept much after the shock of such a discovery. For some way they followed the Norwegian tracks—there were only

two men, as far as they could make out. Then they abandoned this trail, which was going too far west, and finished a march of fourteen miles due south. Now that the hope of priority was gone, the place seemed 'awful and terrible,' but they had a specially good meal—'a fat Polar hoosh'—and little Bowers led himself out to get sights in specially difficult circumstances. Scott thought of the struggle homewards, and wrote: 'I wonder if we can do it.'

On Thursday, January 18, they summed up all their observations and decided that they must be now one mile beyond the Pole and three miles to the right of it. They set out accordingly, and two miles from camp, and one and a half miles from the Pole, they found a small tent containing a record of Roald Amundsen having been there on December 16, 1911, with four companions. There was also a note from Amundsen to Scott, asking him to forward a letter to King Haakon!

Scott, in his turn, left a note to say that he and his party had visited the tent. Meantime Bowers was photographing; and Wilson sketching. Then a cairn was built, the Union Jack was hoisted, and the party took a photograph of itself, Bowers pulling the string. They all look grim, and it is not to be wondered at; but they were not grudging honour to those who had won the race. Scott's entry says: 'There is no doubt that our predecessors have made thoroughly sure of their mark, and fully carried out their programme.' He adds: 'Well, we have turned our back now on the goal of our ambition, and must face our 800 miles of solid dragging—and good-bye to most of the day-dreams!'

QUESTIONS

1. Three Degree Depot: this was 3° from the South Pole. If a minute of latitude were, in round figures, 6000 feet, how many statute miles had they still to go?
2. A minute of latitude is, in these high latitudes, 6100 feet. With this knowledge, correct your answer to Question 1.
3. At the Poles:

1' of latitude = 6100 ft.

At the Equator:

1' of latitude = 6050 ft.

As this is so, can the Earth be a perfect sphere?

4. THE RACE FOR LIFE

It is sometimes assumed that self-preservation is the strongest of all driving forces ; we hear it said that a man was seen running ' as if he were running for his life.' But with men of real power it would seem that their greatest efforts are made, not when they are seeking to save themselves, but when they are risking everything for their country or each other, or in some other cause of honour or devotion. Scott and his companions are certainly an example of this ; they marched bravely homeward for their lives, but without that strength and elation which had sustained them on the outward journey, when they were inspired by the hope of winning a coveted honour for the country they served. And they died without misery, because they had many consolations, such as do not come to men who have been thinking only of themselves.

They started back on January 19, and from the first they found the journey ' dreadfully tiring and monotonous.' On the 20th, with a favourable wind, they tried sailing, and at first went along at a greatly increased pace ; but they soon got into drifted snow which clogged their ski. Bowers was even worse off, till he could recover his ski ; and to-day it is noted that Oates is feeling the cold more than the others. Still they did eighteen and a half miles, and talked of catching the ship.

Next day trouble began ; a blizzard was blowing in the morning ; they could not march for fear of losing the track, and when they got off at last they could only do six miles. On the 22nd their march of fourteen and a half miles was the most tiring they had yet had, and their ski boots began to show signs of wear. On the 23rd they sailed again, but were halted by the discovery that Evans' nose was frost-bitten. His fingers, too, were badly blistered, and he was very much annoyed with himself, which was not a good sign. Next day they were stopped again by a blizzard. ' I don't like the look of it,' says Scott. ' Is the weather breaking up ? If so, God help us. . . . I don't like the easy way in which Oates and Evans get frost-bitten.' But next day those two were as bad again, and Wilson

was suffering tortures from his eyes. The succession of blizzards seemed likely to continue, and the cold damp they brought was very exhausting.

On the 27th they found their sleeping-bags getting slowly but surely wetter, and food shorter. On the 28th they were hungrier still, and getting 'pretty thin, especially Evans,' but none of them was feeling worked out. Next day was a good one, wind favourable and track visible; but on the 30th, troubles began again. Wilson strained a tendon in his leg, painfully; he was very plucky over it, but it made Scott serious, for the lives of all hung on the health of each—they would never abandon their sick or wounded. 'To add to the trouble,' he writes, 'Evans had dislodged two finger-nails to-night; his hands are really bad, and to my surprise he shows signs of losing heart over it.' They had already picked up three articles dropped on the way out—Oates's pipe, Bowers' fur mitts, and Evans' night boots. Now, on the 31st, they found Bowers' ski, left behind on December 31, and very glad they were to recover it. They reached Three Degree Depot, too, and were able to increase their rations. But Scott's anxiety continued, and on February 2 he himself became a casualty by falling heavily on a very slippery surface and hurting his shoulder. There were now three injured men out of five, and the most troublesome surfaces yet to come.

On February 4, Evans fell twice; the second time Scott fell with him, into a crevasse. After this, Evans became 'rather dull and incapable'—he had concussion from his fall—and next day he was 'a good deal crocked up,' with his nose and fingers frost-bitten. He was now the chief anxiety, and his wounds were going wrong; it was a great relief when, on the 7th, the Upper Glacier Depot was reached and the Summit journey was ended. 'I think,' says Scott, 'another week might have had a very bad effect on P.O. Evans, who is going steadily downhill.'

They were now about to get on to rock after fourteen weeks on ice, and in spite of their fatigue they determined not to neglect the scientific side of their enterprise. Scott steered in for Mount Darwin, and Bowers procured specimens

of the rock, a close-grained granite. Then they went down the moraine, spending the whole day geologising among seams of coal, leaf-fossils, pieces of limestone from no one knew where, and lumps of pure white quartz. Altogether a most interesting afternoon, and the relief of being out of the wind inexpressible. Two good days and nights followed, and Scott notes 'a great change in all faces.'

Then came a week of disaster. The beginning of it was a fatal decision to change the direction of the march and steer east. The party got into a regular trap, plunged desperately forward on ski, and only recovered the track after twelve hours of struggling. Some miles had been lost, and an effort had to be made next day to catch up. Again a wrong turn was made, and at 9 P.M. they camped 'in the worst place of all,' with rations running low. It was only at midday on the 13th, that at last they reached Middle Glacier Depot, and replenished their store.

Next day they could only do six and a half miles. There was no getting away from the fact that they were not going strong. Wilson's leg was troublesome; Evans had blistered a foot badly, and was apparently going from bad to worse, besides suffering from want of plentiful food. Two days more and he was nearly broken down—absolutely changed from his normal self-reliant self, and stopping repeatedly on some trivial excuse. On the 17th, he looked a little better to start with—but soon worked his ski shoes adrift, and had to leave the sledge. An hour later the others waited for him, and he came up very slowly. In another half-hour he dropped out again, and was cautioned by Scott, to whom he replied cheerfully. But he did not come up in time for lunch, and the others all went back for him. Scott reached him first and was shocked to find him on his knees, with hands uncovered and frost-bitten, and a wild look in his eyes. He could only say that he thought he had fainted. Wilson, Bowers, and Scott went back for the sledge, Oates remained with him; before he could be got away he was unconscious, and by half an hour after midnight he was dead. It was a terrible thing for a small party in such extreme danger to lose a companion and friend, and it hardly made it less terrible to reflect that there could not have been a better ending to the anxieties of the

past week. With a sick man on their hands at such a distance from home, the plight of all would have been too desperate for endurance.

QUESTIONS

1. They found the journey 'dreadfully tiring and monotonous.' What do the inverted commas signify?
2. Seams of coal in the Antarctic. The climate of the Antarctic is at the present time too cold for vegetation to grow. What inference do you draw from the fact that coal exists there?
3. What is a fossil?
4. What kinds of rock were exposed at the edge of the South Polar plateau?

5. THE LAST MARCH

After the sorrowful event at Lower Glacier Depot, the four survivors gave themselves five hours' sleep and then went to their old Camp 31, where the ponies had been shot. There they found plenty of horse beef, and with the increased rations new life seemed to come at once. They took another good night's sleep and spent the next morning in shifting to a new sledge and fitting it up with mast and sail. In the afternoon they started again with renewed hope. But the surface proved to be as bad as their worst fears—soft, loose snow like desert sand, and a long struggle only brought them four and a half miles forward.

That evening Scott balanced his chances. In some ways things were improving—the sleeping-bags were drying, and the party had better food and better health. The uncertain element was the weather; the lateness of the season caused some little alarm, and the distance to be done was still formidable; the four stages, to south Barrier Depot, Middle Barrier Depot, Mount Hooper, and One Ton Depot, would take seven days each—not less, and quite possibly more. Beyond that there were two more stages, to Bluff Depot and Corner Camp; but these were not counted, for at One Ton Depot, if not earlier, they would find Cherry-Garrard waiting for them with the dogs. One Ton Depot was therefore the goal; there lay safety, and they had a month to reach it.

By the end of the fourth day, February 22, the position

looked gloomy ; everything depended on finding and keeping the old track from cairn to cairn, and already they had lost it. They found it again, next day, thanks to Bowers' wonderful sharp eyes, and reached the depot on the 24th up to time. But there were causes for depression. A note left for them by Lieutenant Edward Evans sounded anxious—he was already, though he did not say so, stricken with scurvy. Then Wilson was suffering fearfully from snow blindness ; and there was an unexpected and very alarming shortage of fuel, the oil in store having leaked. 'It is a race,' says Scott, 'between the season and hard conditions, and our fitness and good food.' Four days later he adds : 'There is no doubt the middle of the Barrier is a pretty awful locality.' But on March 1 they reached Middle Barrier Depot in bright sunshine and nearly up to time.

But at this point the tide turned against them—ominously at first, and then, as they struggled on, so strongly and definitely, that nothing was left for personal hope, only loyalty to each other and the determination to hold up the standard of honour and endurance. 'First,' says Scott, 'we found a shortage of oil ; with most rigid economy it can scarcely carry us to the next depot. Second, Titus Oates disclosed his feet, the toes showing very bad indeed, evidently bitten by the late temperatures. The third blow came in the night, when the wind, which we had hailed with some joy, brought dark overcast weather. It fell below — 40° in the night, and this morning it took 1½ hours to get our foot gear on.'

But their courage was unbroken. On March 3 they pulled four and a quarter hours and only covered four and a half miles. Scott's Journal becomes more and more wonderful as things get worse. 'God help us, we can't keep up this pulling, that is certain. Amongst ourselves we are unendingly cheerful, but what each man feels in his heart I can only guess.' His great anxiety now was for Oates's health ; a possible further shortage of fuel at the next depot combined with a snap of colder weather would probably be more than he could stand. 'I don't know what I should do,' Scott writes, 'if Wilson and Bowers were not so determinedly cheerful over things.'

On March 5 the entry is more depressed : 'Our fuel

dreadfully low and the poor Soldier nearly done. We none of us expected these terribly low temperatures, and of the rest of us Wilson is feeling them most—mainly, I fear, from his self-sacrificing devotion in doctoring Oates's feet. . . . The others, all of them, are unendingly cheerful when in the tent.' On March 6: 'Poor Oates is unable to pull—sits on the sledge when we are track searching—he is wonderfully plucky, as his feet must be giving him great pain. He makes no complaint, but his spirits only come up in spurts now, and he grows more silent in the tent.' On March 7: 'One of Oates's feet *very* bad this morning; he is wonderfully brave. We still talk of what we will do together at home.'

On the 9th they reached Mount Hooper Depot, and found a shortage of stores all round. Scott says stoutly: 'I don't know that anyone is to blame. The dogs which would have been our salvation have evidently failed.' He was right there; the dogs under Cherry-Garrard had been waiting at One Ton Depot, held up by a four-day blizzard; then, having exhausted their spare provisions, they were obliged to turn back. No one was to blame, and Scott's freedom from bitterness is one more proof of his greatness as a leader.

'Wednesday, March 14.—We *must* go on, but now the making of every camp must be more difficult and dangerous. It must be near the end, but a pretty merciful end. Poor Oates got it again in the foot. I shudder to think what it will be like to-morrow. . . . Truly awful outside the tent. Must fight it out to the last biscuit, but can't reduce rations.'

The next entry is three days later. *'Friday, March 16, or Saturday, 17.*—Lost track of dates, but think the last correct. Tragedy all along the line. At lunch, the day before yesterday, poor Titus Oates said he couldn't go on; he proposed we should leave him in his sleeping-bag. That we could not do, and induced him to come on, on the afternoon march. In spite of its awful nature for him he struggled on, and we made a few miles. At night he was worse, and we knew that the end had come. Should this be found I want these facts recorded. Oates's last thoughts were of his mother, but immediately before he took pride in thinking that his regiment would be pleased with the

bold way in which he met his death. We can testify to his bravery. He has borne intense suffering for weeks without complaint, and to the very last was able and willing to discuss outside subjects. He did not—would not—give up hope to the very end. He was a brave soul. This was the end. He slept through the night before last, hoping not to wake; but he woke in the morning—yesterday. It was blowing a blizzard. He said ‘I am just going outside and may be some time.’ He went out into the blizzard and we have not seen him since. . . . We knew that poor Oates was walking to his death, but though we tried to dissuade him we knew it was the act of a brave man. We all hope to meet the end with a similar spirit, and assuredly the end is not far.’

It was not far. By lunch next day the three survivors were twenty-one miles from the depot, and nearly worn out. Scott’s right foot had now gone—two days before he had been the fittest, but a spoonful of curry powder with his pemmican had caused indigestion and the inevitable frost-bite had followed. Amputation was now the least he could hope for, and that only if the deadness did not spread.

On March 19 the party reached their sixtieth camp from the Pole, and were now within eleven miles of safety. But there the blizzard stopped them. As a forlorn hope, Wilson and Bowers proposed to go on and bring back fuel for Scott; but the blizzard made this impossible. On the night of the 23rd, death stared them straight in the face; they had no fuel left, and only two days’ food. ‘Must be near the end’ writes Scott. ‘Have decided it shall be natural—we shall march for the depot and die in our tracks.’

This was not possible. On the 29th they were still there, still blizzard-bound, still just alive, still undefeated in spirit. Scott’s last entry is in keeping with all that he has written in his Journal. ‘Every day we have been ready to start for our depot *11 miles away*, but outside the door of the tent it remains a scene of whirling drift. I do not think we can hope for any better things now. We shall stick it out to the end, but we are getting weaker, of course, and the end cannot be far. It seems a pity, but I do not think I can write more.

‘ R. SCOTT.

‘ For God’s sake look after our people.’

When the search party reached the place eight months later, Wilson and Bowers were found lying quite naturally, shut up in their sleeping-bags. Scott, the master spirit, had died later; he had thrown back the flaps of his sleeping-bag and opened his coat.

In the tent, besides his Journal, he had left farewell letters to his friends and family, and a message to the Public, giving an estimate of the disaster and its causes. All these are of the same admirable quality—varying tones of the same unshaken voice. These passages will exemplify all.

‘I want to tell you that we have missed getting through by a narrow margin which was justifiably within the risk of such a journey. . . . After all, we have given our lives for our country—we have actually made the longest journey on record, and we have been the first Englishmen at the South Pole. You must understand that it is too cold to write much.

‘It’s a pity the luck doesn’t come our way, because every detail of equipment is right. I shall not have suffered any pain, but leave the world fresh from harness and full of good health and vigour.

‘Since writing the above we got to within 11 miles of our depot, with one hot meal and two days’ cold food. We should have got through but have been held for *four* days by a frightful storm. I think the best chance has gone.

‘Make the boy interested in natural history if you can; it is better than games; they encourage it at some schools. I know you will keep him in the open air. Above all, he must guard, and you must guard him, against indolence. Make him a strenuous man. I had to force myself into being strenuous, as you know—had always an inclination to be idle.

‘What lots and lots I could tell you of this journey. How much better it has been than lounging in too great comfort at home.’

QUESTIONS

During summer, rocks were exposed at the edge of the Polar plateau.

Do you infer from this that the snow melts on the slopes of the plateau during summer? Would the edge of the plateau slope towards the sun at midsummer? Might this be a cause of the barrier of ice that encircles the plateau at its foot?

VII. ALEXANDER WOLLASTON

I. THE MOUNTAINS OF THE MOON

THE scientific temperament and the exploring impulse go well together, and when both are inherited they make a very strong combination. Alexander Wollaston is a typical example. His father was for many years a master at Clifton College, and it was there that his son was born in 1875. Sandy, as his friends called him, in his early youth made choice of the medical profession. He went from Clifton to King's College, Cambridge, then to the London Hospital, and became in due course a qualified member of the College of Surgeons and the College of Physicians.

But if ever he thought of passing his life as a doctor he was reckoning without his ancestors. The first bit of work that came his way was the chance to go as surgeon with a private expedition to the Soudan. This was decisive; as in Younghusband's case, the inherited impulse rushed to the front, took charge of the rest of his character, and made a career for him. He returned from the Soudan only to start again for Lapland, and after that to the Far East. In short, he became an inveterate traveller. There are by now few regions in which he has not discovered or observed birds, beasts, and flowers, and the names of the out-of-the-way cities, coasts, and islands which he has visited from time to time would make quite a pattern on the map of the world. Finally his war service as a naval surgeon took him up into the Arctic Circle, down to the Cape of Good Hope and German East Africa, and up again to Murmansk and Archangel.

But of all these travels we have at present no account, and it is time to turn to the two books which contain the record of his adventures in Equatorial Africa and in New Guinea. They cover the six years 1905 to 1911, which may be called the years of his apprenticeship, for in them he was learning the business of scientific expedition of discovery, and qualifying himself for the position of leader which fell to him afterwards. The first of these two expeditions

was called 'The Ruwenzori Expedition,' and to give any account of it we must begin by explaining what and where is Ruwenzori, and why it was a good objective for scientific discoverers.

Down to the end of the nineteenth century very little was known by Europeans of the vast range of mountains which lies between the lakes Albert Edward and Albert Nyanza. It was, as Wollaston says, 'the least known mountain region in Africa.' The first white man to see it was probably Sir Samuel Baker in 1864; he describes a distant view of a range which he saw while exploring Lake Albert. He calls it 'The Blue Mountains to the South'—he knew no other name for it, and he was evidently not aware of its true character. 'It was not until 1887, when Stanley came from the Congo on the Emin Relief Expedition, that the mountains were definitely recognised as a snow range, and for very nearly twenty years more they remained as little known and as mysterious as ever.' Attempts were made on several occasions to penetrate into what were now known as 'The Mountains of the Moon,' but they were made by parties with other objects in view, who were not fully equipped. It is not to be wondered at that expeditions were being proposed or discussed in several quarters; and two were in fact starting almost at the same moment, one from Italy under the Duke of Abruzzi, and one from England.

2. THE JOURNEY OUT

The British Museum Expedition was just starting from England in October 1905, when Wollaston heard of it for the first time and hurried off to Mr Ogilvie Grant to offer his services. Fortunately the place of doctor and botanist was just the one which remained unfilled, and he was told that he could make his preparations and follow by the next boat. Early in November he took ship from Genoa for Mombasa.

From Mombasa Wollaston went inland, of course by the Uganda railway, through a country swarming with hartebeestes, wildebeestes, gazelles, ostriches, and zebras, and haunted too, though less visibly, by lions, leopards, rhino-

ceros, and giraffes. Beyond Nairobi came the surprise of the journey—'the lovely and mysterious Lake Naivasha.' The mystery does not lie in the great slumbering volcano of Longonot, with its lava-covered slopes scored by the rains into a thousand gullies, nor in the jets of steam which spout up through the scrub, nor in the springs of boiling water. But here is a lake of beautiful fresh water, with no apparent outlet; even in the heaviest rains or the longest drought it keeps an almost equal level, hardly rising or falling at all; and there are many stories told by the people of these regions of underground rivers and of water heard falling into vast caverns. There is a mystery too about the origin of the lake, and it is said that the grandfather of the oldest inhabitant remembered a time when there was no lake there.

Anyhow there it is now, and Wollaston fell in love with it at first sight. 'To the wandering naturalist,' he says, 'Naivasha is one of the happy hunting grounds that he has dreamed of but never hoped to see.' There on an island towards the south-east corner of the lake he camped for a short time, a mile from the mainland and right in the midst of long-legged stilts and whistling greenshanks and English willow-wrens, and herons and ibises and waterbuck, and hippos crushing and grunting through the reed beds. 'The margin of the lake is fringed with sedges, tall reeds, and papyrus; beyond the papyrus is a marvel of water-lilies, pink and white and blue, but mostly blue. Where the shallows extend far into the lake, there may be near by a mile of water-lilies. In the morning, when the breeze ruffles the water and breaks up the reflections, the green of the translucent up-turned leaves, the blue of the flowers, the orange of the submerged stems, and the almost amethyst light of the water, together make a very opal of colour.' And though the days are beautiful the nights are even better still; for then in the short twilight hour the animal world is all astir. The baboons chatter in the rocks, the geese are heard among the reeds, the jackals wake up and trot over the plain, the water-bucks go to their favourite salt licks, the herons pass overhead to their fishing, and from the distance comes 'the unearthly howl of hyenas and the discontented grunt of a lion.' In fact for Wollaston it was Paradise, and he would have liked to spend a lifetime

there. But the railway recalled him and took him westward again into the Kavirondo country, a hot region full of fine people very lightly attired—the men in ear-rings, the women in strings of beads and elegant coils of telegraph wire. And in no long time the train ran on to the pier at Port Florence on the Victoria Nyanza, and an official called out ‘All change!’ to the one and only passenger.



In the Butagu Valley, Ruwenzori, West.

(From Wollaston's *'Ruwenzori to the Congo'*: John Murray.)

After this the journey was more comfortable. A perfect little ocean steamship, complete with white paint, glistening brasswork, electric lights, and an Indian cook, took the passenger across the lake to Entebbe, the capital of Uganda; and from there he started again on Christmas Eve in a two-runner rickshaw attended by a gang of porters. A fortnight's march brought him to Toro, or Fort Portal, the capital of the Western Province of Uganda, and the most westerly British post. From here he got his first sight of Ruwenzori—‘a mighty wall of forest-covered ridges, which mount

higher towards the south and dwindle away towards the northern plains like a headland in the sea ; deep valleys filled with trees and shadows ; in the far distance a towering mass of jagged rocks crinkled against the sky ; and overtopping all can just be seen two snow-clad peaks.' Here too he discovered that the name Ruwenzori is not known in that country at all : it is a word of our own, ' the misspelt corruption of a local word of very doubtful meaning.' It is, however, now a historic name, and a better-sounding one that ' Gamballagalla,' by which the mountains are known to the people of Uganda.

After leaving Toro the road went up hill, but the continual haze completely hid Ruwenzori for some days, till one morning Wollaston was roused from sleep by loud cries of ' Gamballagalla ! ' and saw the range close above him—first a mountain valley with wooded ridges, above this a bold buttress of sheer black crags, and beyond these a towering snow peak. ' Poised almost upon the topmost pinnacle was the setting moon, a few days past the full. Whilst we looked, the moon sank out of sight, and a rosy flush spread over the ice and snow. A few moments more and the snow had vanished like a puff of smoke ; a flood of sunlight turned the black crags to a flaming orange, and the grass in the valley glittered with a million drops of dew.' A few minutes later he was fording the Mubuku river waist deep ; then the valley narrowed suddenly, and turning a sharp corner he came in sight of his journey's end, the camp of the British Museum Expedition, perched high upon a ridge before him. An hour's steep climb, and his porters had dumped down the loads they had carried for 250 miles, and were off for home, dancing and cheering down the hill.

QUESTIONS

1. When a doctor has F.R.C.S. after his name, what does it signify ? If a doctor were Fellow of the Royal College of Physicians, what letters would he place after his name ? What is the meaning of the Latin words *fauna* and *flora* ?
2. ' Jets of steam which spout up.' Is this a sign that hot water from deep down in the earth found its vent through fissures in the rock in this region ?
3. ' Lake of fresh water with no apparent outlet.' Could the lake

remain fresh if there were no outlet? Could the outlet be by way of a subterranean river?

4. 'The Victoria Nyanza.' From the fact that the word 'lake' is omitted, what do you infer is the meaning of the word 'Nyanza'?
5. The moon set behind Ruwenzori, and immediately afterwards the sun rose and shone upon the mountains. On which side of the mountains did the moon set? On which side did the sun rise? Were the two acts almost simultaneous? Was the moon at full?

3. THE CONQUEST OF RUWENZORI

The other members of the British Museum party, who had arrived three weeks before, were Mr R. B. Woosnam, leader of the expedition, Mr R. E. Dent, the Hon. Gerald Legge, and Mr W. D. Carruthers. Their camp was close to the native village of Bihunga, on a ridge so narrow that 'if one had tried to pitch another tent, it would assuredly have fallen over the edge into one of the valleys below.' The people of Bihunga were timid at first, but soon found that they could make a living out of the strangers, by hunting and bringing in beasts of any kind—hyraxes, gigantic rats, bats, mice, worms, beetles, chameleons, and snakes. These various creatures they did not touch, if they could help it, but brought them tethered with fibres or wrapped in leaves. 'One of the most curious things that was brought was a single small beetle tied to a stick by a most ingenious harness about its middle; it was a common species, of which we had many specimens, but it was bought for sake of its harness, and now (I hope) it adorns the national collection.'

As botanist too Wollaston had a wonderful time. The flowers of Ruwenzori are almost beyond belief, if only for their giant size. Begonias are two feet high, lobelias and tree-ferns twelve to fifteen feet, brambles have flowers two inches across, and fruit as big as walnuts. Groundsels and St John's wort grow to twenty feet. But the heath is the most astonishing of all: 'The reader must imagine a stem of the common "ling" magnified to a height of sixty or seventy or even eighty feet, but bearing leaves and flowers hardly larger than those of the "ling" as it grows in England. Huge cushions of many-coloured mosses,

often a foot or more deep, encircle the trunks and larger branches, while the finer twigs are festooned with long beards of dry lichen, which give to the trees an unspeakable dreary and funereal aspect.' Add to all these wonders the beauty of great clumps of brilliant flowers—red and yellow lilies, white and yellow daisies, purple-flowered acanthus, tall white dombeyas, and papilionaceous bushes with yellow flowers and long black seed pods ; and remember that above and beyond these there were always the green ridges of the mountain forest and the towering peaks of rock and snow. Wollaston insists on the importance of the views. 'In a country where the greater part of one's time is spent dawdling along narrow tracks hedged in by walls of grass and bushes, whence nothing can be seen but the back of the man in front of you, or in groping blindly through tunnels of forest, the views acquire an importance which can hardly be realised in a country built upon a smaller scale. It is the views, seen or hoped for, which alone make travelling tolerable in Africa.'

The primary object of the expedition was to collect specimens ; it was therefore not till the latter half of February that they had time to think of climbing, and even then their equipment was a haphazard one. They had only twenty-five feet of rope and a pair of crampons, and but one old ice-axe. Worst of all, they had no portable tent, so that they could not make a camp beyond the point to which their porters would consent to go, and that was not very far. Finally, the good weather was gone and the rainy season had set in.

Still, it was impossible to leave Ruwenzori without making an attempt to win the great prize, and in one of the rare intervals of sunshine they set out for the upper regions. The rain closed down on them immediately, but they struggled along a knife-edged ridge 1000 feet sheer above the Mubuku torrent, and reached a huge erratic boulder called Vitaba, 'as big as two four-roomed cottages rolled into one.' After leaving Vitaba they had to plunge into a thicket of bamboos, through which it was very hard to wriggle, especially for the Bakonjo porters with their loads on their heads. They went for miles through this tangle of stems, and at the end of the day reached the foot of a

steep black precipice 400 or 500 feet high, called Kichuchu. Here they had to camp, on a small space of comparatively dry ground, only a few yards in extent, beneath an overhang of the rock. The floor was a quivering bog, and there was not room enough to pitch a tent, so they laid their bedding close to the foot of the cliff and as far as possible out of the way of the water which dripped down in a constant cascade.

But these discomforts were not all. 'The most notable feature of the camp at Kichuchu was the nocturnal chorus of the Ruwenzori ghosts. It was always said by the inhabitants that there were devils high up in the mountains, and anyone of a superstitious turn of mind who has slept, or tried to sleep, at Kichuchu could well believe it. So soon as it became dark, first one and then another shrill cry broke the silence; then the burden was taken up by one high up on the cliff overhead, then by others on either side, until the whole valley was ringing with screams. Various theories were advanced to account for it: frogs, owls, and devils were among the suggestions, but the porters declared that the noises were made by hyraxes, and we discovered afterwards that they were right. It is possible that each actual cry was not very loud, but the steep hillsides and the bare wall of the cliff acted as sounding boards, which intensified the sound to an incredible extent.'

Next day began the ascent of a series of gigantic steps or terraces from 500 to 1000 feet in height, with about two miles of level between them. The first of these steps was the precipice above the encampment, and it was the worst to climb. It was dripping with water and brought the explorers out on to a terrace covered with giant heath trees growing very close together, with others decaying on the ground between them. But the porters hopped nimbly over these, and at 11,800 feet the party reached a sort of primeval swamp-garden with huge flowers growing out of dense moss-beds, and the Mubuku running through the middle of it as clear as an English trout stream. A slippery scramble across this garden brought them to their next camping place, Bujongolo, 12,461 feet up.

Bujongolo was as uncomfortable as Kichuchu, and not less haunted—ten feet of ground under an overhanging cliff,

from which many huge blocks had already fallen. The porters crept into holes and crannies among the rocks, the Englishmen sat huddled round a fire of sodden heath logs, which produced only an acrid and blinding smoke. As night fell huge bats two feet across the wings came out from the cliff, and flew noiselessly to the valley below. There were tracks of leopards and other wild cats round the camp, and to crown all the tired climbers were shaken out of their uneasy sleep by an earthquake of great severity. 'Every moment,' says Wollaston, 'I expected to see the cliff, which made our roof, come crashing down to put an untimely end to our travels.'

But the earthquake passed and day returned, and the explorers began to make plans for the attack on Ruwenzori. The first thing to do was to ascertain which was actually the highest peak of the range, for no one had yet discovered this; in fact no one was sure how many peaks there were, or in what direction they lay from one another. There was the rock named Grauer's Rock; there was Kiyanja, which Sir Harry Johnston thought to be the true Ruwenzori, and two other twin peaks which he had named the Duwoni; there was a big peak to the north-west, now called Savoia Peak, and further away to the north-west two beautiful sharp-pointed snow peaks which Wollaston afterwards estimated to be the highest of all—these are the two seen by Stanley and named Mount Stanley, but now rechristened Margharita Peak and Queen Alexandra Peak.

The first expedition made by our party from Bujongolo was to the head of the Mubuku glacier and up to the top of Grauer's Rock. This they examined, and found that it was not the summit of the watershed, but only a ridge connecting a big buttress with the main chain. They returned therefore at once, and next day Wollaston and Woosnam set out for Kiyanja. They followed up a small stream, and soon got thoroughly bogged at an altitude of 14,000 feet, where the least exertion was a labour. At 14,500 feet they cleared the region of the lobelias, and at 14,800 feet they got on to rock. But the clouds had come low down, and to make sure of finding their way back was no easy matter. Here the old fairy tales came to mind and helped them out. They filled their pockets with the

flower-heads of the 'ever-lastings,' scattered them every few yards in the fog, like Hänsel and Gretel, or Hop o' my Thumb in the story, and so went boldly forward to the top they had seen from below.

They got safely back to camp that night, but on the way down, when a warm slant of sunshine pierced the fog, they saw that there was another top close by, some 150 feet higher than theirs—the peak afterwards named King Edward Peak. Their consolation was that they had done 15,840 feet, and been considerably higher than anyone before them. Also they could still try again in another direction. Their next course was obviously, they thought, to climb the peak on the north-east side of the Mubuku glacier and see whether it was actually one of the Duwoni or not. But, as before, the work of collecting had first to be done. They returned to Bihunga, and came back to Bujumbura at the end of March. On April 1, Woosnam, Cammellers, and Wollaston set out once more for the supposed Duwoni. They tried a new turn this time, and got into a steep and unpleasantly wet gully; but it led them to the southern ridge of their objective. Then they luckily came upon snow slopes, which were easier work, and in rather less than six hours they reached a rocky point, climbed it, and found themselves on the top of the peak. Then the clouds parted enough to show them, as once before, a twin peak close to theirs. This time, however, the luck was with them; they were on Duwoni, and their peak was the higher of the two. The twins were afterwards named by the Duke of the Abruzzi: Moore Peak 15,269 feet, and Wollaston Peak 15,286 feet.

The Duke of the Abruzzi arrived at Toro at the end of May, with a thoroughly efficient party of guides, photographers, and friends, equipped for the conquest of Ruwenzori. His first preparation was to invite Wollaston to meet him at Toro, the rest of the expedition being away shooting. Wollaston went, and advised the Duke as to the best route to follow. Then after setting the Italians a day's march on their way, he marched back to his own camp. The completely successful result of the Duke of the Abruzzi's expedition is now a matter of history.

QUESTIONS

1. Do you know any other country in which tree-ferns grow ?
2. Which month is mentioned in the text as the beginning of the rainy season in Uganda ?

4. THE LARGEST ISLAND IN THE WORLD

The British Museum Expedition broke up in October ; but while the other members made straight for home, Wollaston and Carruthers went back only as far as Entebbe, and from there set off westward again with a fresh train of forty porters, to see the great lakes and the Congo on their own account. They passed down the whole length of Lake Albert Edward, through the Mfumbiro range of volcanoes, from end to end of Lake Kivu, down the western arm of Lake Tanganyika, across to the Congo, and down the whole course of that river to the sea.

Wollaston had only just time to write the account of his African journey when he was offered and accepted a chance to go still further afield. The expedition this time was to be sent out by the British Ornithologists' Union, and the proposal came once more from Mr Ogilvie Grant, who was one of the members. The objective was to be Dutch New Guinea, where there was an unmapped range of snow mountains and a country stocked with unknown birds.

The leader of the B.O.U. party was to be Mr Walter Goodfellow, who already knew the country ; of the other members, Messrs Stalker and Shortridge were the naturalists, Captain Cecil Rawling—who had been in Tibet with Sir Francis Younghusband and had mapped that country—was surveyor, with an assistant surveyor, Mr E. S. Marshall, who had just returned from the Antarctic with Sir Ernest Shackleton, and Mr Wollaston was to be medical officer, botanist, and entomologist, as he had been before. The expedition started as a party of four by a P. and O. steamer from Marseilles, on October 29, 1909, and the rest of its personnel joined up as it proceeded on its way. Ten Gurkhas were picked up at Singapore. Mr Shortridge was waiting at Batavia, the Dutch capital in Java, and there too was a special steamer generously provided by the

Dutch Government, with the military escort under Lieutenant H. A. Cramer. At Amboina, which the steamer reached on December 30, they found Mr Stalker, who had been recruiting coolies for them in advance. Finally, New Guinea was sighted on January 4, 1910.

New Guinea, or Papua, is the largest island on the globe, and yet one of the least known to ordinary inhabitants



The north-west end of Lake Kivu.

(From Wollaston's '*From Ruwenzori to the Congo*': John Murray. By kind permission of Mr A. F. R. Wollaston.)

of the civilised world. When Wollaston's book was published in 1912 it was almost sensationally novel ; few people in England had even realised that ' New Guinea ' and ' Papua ' were two names for one and the same country, and he found it necessary to explain how the second name arose. ' Papua comes from the Malay word *papuwa*, meaning " woolly " or " fuzzy," and was first applied to the people of Papua on account of their mops of hair ; later the name was applied to the island itself.' As to the island, the information

we had received from the geography books was mainly political. We knew that the Dutch had owned the western half of the country for a long time, and that we had got hold of the eastern part in our casual sort of way, and supposed it to be British until one day the Germans annexed half of it and called it Kaiser Wilhelm Land. So much for the country ; as to the inhabitants, who were the true and original owners of it, we probably knew that they were Malays. Only specialists knew more than this.

But the real interest of New Guinea does not lie in its political history or its commercial prospects : it is greater than even the specialists could have guessed. Probably the British expedition themselves had no idea, when they started, of what they were actually fated to discover ; birds and snow mountains were less than the half of it. The fact is, that in this island secrets were waiting for the explorer, secrets for which explorers have long been searching among the primitive races of the earth. We men of to-day, with our conventional manners and Dreadnoughts, are aware that we are descended from remote forefathers who had to get their living with more effort, more original inventiveness, and fewer inherited resources ; and in every race of which our travellers have told us we have hoped to find some picture of our own past. But of such a picture we get only glimpses ; we put together a detail or two, but the result is only fit for a case in a museum, it has no air of life about it. The reason of this is that the peoples our explorers have studied were always, broadly speaking, in one of two classes. Powerful and numerous races, like those of Africa, were no longer really primitive : they possessed steel weapons and many of the arts of life ; they had apparently degenerated to some extent from a more advanced condition. On the other hand, races elsewhere which had remained primitive were feeble ones, few in numbers and without the energy or inventiveness to use the resources of the earth. The blacks of Australia had no weapons at all, no boats, no crops, no villages ; they lived by fishing and gathering seeds, as we have heard in the story of Burke and Wills. We could never have come from helpless creatures like these. What the modern man of science longed to find was a numerous and healthy race,

developing in a corner cut off from the rest of the world, and still at the early stage when the biggest ship was no bigger than the single tree it was made from. Among such a people, if they existed, might be seen perhaps an image of the early world, not preserved in graves or collections of long-disused weapons and ornaments, but alive and ready to be questioned. And not one but two such races were in Papua, waiting for Wollaston to record their life as he saw it from this end of time.

QUESTIONS

1. Between which latitudes is the island of Papua ?
2. In what sea is the island of Amboina ? To which group of islands does it belong ?
3. Which large islands, judging by depth of sea, appear to belong to Asia ? Which large island appears to belong to Australasia ?

5. BACK IN THE STONE AGE

After sighting the island on January 4, the ship steamed along the coast to the mouth of the Mimika River. She was boarded on the way by some fifty Papuans in dug-out canoes, headed by one man in an old white cotton jacket fastened by a brass button with Queen Victoria's head upon it, and another holding up an ancient Union Jack. To the explorers the appearance of such relics was unaccountable, for it is certain that no Englishman had ever been there before. The next morning the steam launch was sent up the Mimika to prospect for a suitable base. Three miles up they came to the village of Wakatimi, and were given an astonishing reception by a thousand people who crowded down the bank shouting shrilly ; men, women, and children flung themselves into the water, plastered themselves with mud, danced their peculiar wriggling dance, and shed tears of rapture. It was already evident that the white men had come to a very primitive world ; they pitched camp opposite to Wakatimi, and the two races began to make acquaintance.

Trade of course was the first link : the blacks helped the whites in hut building and were delighted to be paid in beads and cloth. Then they brought live birds for sale,

and delicious prawns six or eight inches long; and then every kind of possession, axes, clubs, bows and arrows, spears and drums, and even the skulls of their ancestors. What they most desired in exchange for these were knives, bottles, and empty tins, and of these the expedition had naturally a good supply to spare as time went on.

The houses of Wakatini are thatched, and built in long rows, or rather a single long house is built without internal partitions, and is divided between fifty or sixty families, who each keep to their own section and have a separate door. When they are all indoors and a number of fires are burning, the atmosphere inside one of these barracks is indescribable. Outside, the street opposite the houses is bordered with fine cocoanut palms, 300 or 400 in a grove, very picturesque and pleasantly shady. The nuts are heavy and dangerous when a wind brings them crashing down; but they are one of the principal sources of wealth to the people, who exchange them with their neighbours for tobacco and bananas.

Another common species of palm is the sugar palm, prized because it is a kind of automatic wine shop. 'When the palm is in fruit—it bears a heavy bunch of dark green fruit—a cut is made in the stem below the stalk of the fruit, and the juice trickles out and is collected in the shell of a cocoanut. Apparently the juice ferments very rapidly without the addition of any other substance, for it is drunk almost as soon as it is collected, and the drinker becomes horribly intoxicated.'

The average Papuans have no time for drink, they are too much occupied, men and women, with the everlasting search for food, which is naturally the first object of human life, though civilisation partly conceals the fact. In Papua there is not much cultivation—the crops are never nearly sufficient to feed the population. A large part of the food supply is got by hunting game in the jungle and fish in the rivers or along the coast. The women collect sago from the sago palms and shell-fish from the mud banks. The men get the larger kinds of fish either with a hook and line, or by spearing them in shallow water, or by shooting them with arrows; but they are absurdly bad shots with either weapon. Still, they are born fishermen, as may be seen from a note

of Wollaston's. 'The sight of a fish, however small it is, always rouses a Papuan to action. When we were travelling with them we sometimes came to pools where small fish had been left by some receding flood. Instantly their loads were thrown down and everyone darted into the water with sticks and stones and shouts.'

The Papuan dogs are very sociable: they like to go on



Papuans, one in Papuan costume.

journeys with their masters, and are particularly fond of being taken in the canoes, in each of which two or three dogs may commonly be seen. They are sharp-nosed and prick-eared animals, about the size of a Welsh terrier, yellow, brown, or black, with an upstanding white-tipped tail. Only one was seen with a thick furry coat, like a Chow. They are invaluable to the Papuans, who could never catch any game without them; and when one was once shot in the act of stealing, all the people of the village

began to wail for it as they do when a man dies, and the owner smeared himself with mud and mourned bitterly. Wollaston felt that his grief was a genuine emotion.

Lastly we come to the weapons and implements of the Papuans. The bows are of wood, the arrows and fish spears



‘Sitting outside his hut sharpening an axe.’

of wood, with sharp points of harder wood; some arrows are tipped with a single cassowary claw, and the large hunting spears are pointed with long sharp pieces of bone. The clubs and axes are very powerful instruments with wooden handles and stone heads. It is difficult to conceive the skill and industry which must have gone to the making of all these tools and weapons; it must be remembered that until the expedition reached this part of the country the

people had no metal tools whatever, and all their work was done with bits of sharp shell and lumps of stone.

The few items of evidence which we have picked out from Wollaston's book all point irresistibly to one conclusion. We have seen that the Papuans of to-day have no knowledge of the use of bronze or iron ; there they are many centuries behind any race recorded in history. On the other hand they have developed beyond the feeble tribes which have now passed away, or are dying out, like the Australian blacks. They are at the stage when men had perfected the use of stone, wood, and bone for implements, when they had begun to cultivate crops for food, and to keep domestic animals. These three points all mark them out as belonging to what anthropologists call the later Stone Age, the age of Neolithic Man. Now it is generally accepted as certain that whatever our earliest origin may have been, our ancestors of about six or eight thousand years ago were Neolithic men. In looking then at the Papuans, their houses, weapons, wine, dogs, canoes, pigs, and ceremonies, Wollaston and his companions could not but realise that they were looking at the life of their own race at a remote period—so remote that no written record of it has come down to us. And not only were they looking at it as a picture, but they saw it as a real life, an ancient life but a real one, which they could touch and share to-day, though they were separated from it by a difference in time and civilisation of thousands of years. Wollaston relates how one day after his arrival at Wakatimi he found a man who appeared to be the stone smith of the village. 'I remember,' he says, 'seeing him siting outside his hut sharpening an axe, with three or four others lying beside him waiting to be done, while a few yards away a woman was splitting a log of wood with a stone axe. It struck me as being one of the most primitive scenes I had ever witnessed, really a glimpse of the Stone Age.' And probably no explorer has ever made a more fascinating discovery than that.

6. THE PYGMIES

The expedition could not of course be content with a single base camp at Wakatimi ; they were no sooner

settled there than they began to form a second one at Parimau, further up the Mimika River. The distance of this from Wakatimi was only twenty-two miles as the crow flies, but by water it was forty miles, and took from five to seven days to travel in a canoe, according to the state of the river and the health of the coolies who worked at the transport of stores. The establishment of the Parimau camp was therefore a slow business, and as it was itself twelve miles from the mountains, a third camp was planned at the same time still further inland.

During this time Captain Cecil Rawling was busy surveying the country, and had reached the big river Kapare, north-west of Parimau, when one day, as he was walking up the river bed, the Papuans who were with him pursued and captured a wholly unexpected kind of game—two small men, whose build and dress and appearance showed them to belong to another race than the Papuan. A day or two later two more were captured; they were all kindly treated by Captain Rawling, who gave them presents and hoped they would take him to their home, a large clearing in the jungle on the side of Mount Tápiro, which was within sight of the Kapare. But they showed no inclination to do this, so Rawling had to content himself with resolving to make his own way there when he could find an opportunity. He was naturally most eager to do so, for these little men were obviously of a race of Pygmies. The Papuans, it afterwards appeared, already knew them, and called them Tápiro, after the mountain where they lived.

At the beginning of March, Wollaston came with one of the food transports up the Mimika, and went with Rawling out to the Kapare, where he had made a camp, and was occupied with some of the Gurkhas in cutting a track through the jungle. From this upper camp the two explorers made two attempts to reach the forest clearing of the Tápiro, which could be easily seen from the camp at a distance of about three miles in a straight line; but though they took careful bearings of its direction, it turned out to be a most puzzling place to reach. In their first attempt to find this clearing they wandered in the jungle for ten hours, and came nowhere near it. But the day was not altogether wasted, for they climbed up the hillside to about 1500 feet,

and by cutting down some trees they got a wonderful view across the plain of the jungle and away to the distant sea. The air of the jungle was heavily scented with wild vanilla, and all around they could hear, though they could not see, the Greater Birds of Paradise, and sometimes they were within sound of as many as six at the same moment. They also got their first sight of the Rifle Bird, one of the most beautiful of the Birds of Paradise, whose cry is a long-drawn whistle which Wollaston says 'can never be mistaken or forgotten.'

The second attempt is more fully described in his diary.

'Rawling and I left camp early with two Gurkhas. A mile and a half up the left bank of the river we struck off N.E. from the path we followed the other day. We cut a new path through the jungle for about a mile until we came to a faint track, which we followed for another mile or so, chiefly among fallen tree trunks overhung by a network of rattan and other creepers, a fearful struggle to get through. Then for a mile or more up the bed of a stony stream encumbered with the same obstructions, dead trees and rattans, until we came to a deep gorge with a torrent about 300 feet below us, and on the opposite side the steep slope of another great spur of the mountain, on which the clearing presumably lay. We slithered and scrambled down to the river, which was full of water, and only just fordable. Then up the other slope, not knowing at all accurately the direction of the clearing. Very steep, and the jungle very dense with rattan and tree ferns, so the leading Gurkha was kept busily occupied in cutting with his *kukri*, and progress was slow.

'About one o'clock, when we had been going for nearly six hours, the clouds came down and it began to rain, and we were ready to turn back. Luckily the Gurkhas were convinced that the clearing was not far ahead, and when we found a pig trap—a noose of rattan set in a faint track—it seemed that they might perhaps be right. So we went on, and in a few minutes we came out of the forest into the clearing. About thirty yards from us was a hut with three men standing outside it. We called out to them and they waited until we came up. A minute or two later, two more men came out from the forest behind us ; no doubt they had

been following us unseen. The hut was a most primitive structure of sticks, roofed with leaves, leaning up against the hillside. There was a fire in the hut, and beside it was sitting an old man covered with most horrible sores. We went on up the hill for a couple of hundred yards to a place about 1900 feet above the sea, where we had a fine view. Rawling put up the plane-table and got angles on to several points for the map.

‘During the hour or more that we stayed there, eight men came to see us. Excepting one rather masterful little man, who had no fear of us, they were too shy to approach us closely, and remained about ten yards distant, but even so it was plainly evident, from their small stature alone, that they were of a different race from the people of the low country.

‘Every man carried a bow and arrows in his hand and a plaited fibre bag of quite elaborate design slung on his back. Two men wore necklaces of shell, and one had a strip of fur round his head. Two others wore on their heads curious helmet-like hats of grass, ornamented with feathers.

‘One man had a diminutive axe made of a piece of soft iron, about three inches long, set in a handle like those of the stone axes. They must have some bigger axes, as they have cut down some very large trees, and the marks on the stumps look as if they had been made with fairly sharp instruments. The clearing altogether is very considerable, probably fifty acres or more. The ground is covered with the sweet-potato plant, and in many places “taró” has been carefully picked out. They have a few coarse-looking bananas, some of which they offered us.

‘Their voices are rather high pitched, and one of them, who met us first and called several of the others to come and see us, ended his calls with a very curious shrill jodelling note. When we came away we offered them cloth and beads to come with us and show us a better way, but they were either too frightened or too lazy to do so. We got back to camp after ten hours hard going, drenched with rain and covered with leeches, but well pleased with the success of the day.’

After this the Pygmies came occasionally in parties of three or four to visit the camp at Parimau. They were

warmly welcomed by the Papuans, in whose houses they used to stay for several days at a time. It was noticeable that when they came to the village of Parimau they came without their bows and arrows, which they always carried at other times—probably they had left them hidden in the jungle. In the same way the Papuans when visiting the Tápiro always left their spears behind them at the last camp before they reached the Pygmy village.

The explorers in their turn paid visits to the Pygmies, who showed them the right way with some reluctance. It was a very ancient secret that they were giving away, for even the Papuans appear not to have guessed it, after living near them for no one knows how long. The Tápiro village was called Wamberi Merberi, and Wollaston found that it was actually within a stone's-throw of the large clearing which Rawling and he had reached with so much difficulty. By the Pygmies' own track it was an easy walk of two or three hours from the Kapare River.

The notes made by the explorers about these little people are very interesting. The Pygmy men averaged 4 feet 9 inches in height, though some were only 4 feet 2 inches. By contrast with the Papuans they looked extremely small, and Wollaston remarked that though many of the Malay coolies with the expedition were no taller, the coolies looked merely undersized and somewhat stunted men, the Tápiro looked emphatically *little* men. 'They are cleanly built, active-looking little fellows, a race of mountaineers, and their well-made calves contrast markedly with the long straight legs of the Papuans. They walk with an easy swinging gait, the knees a little bent and the body slightly leaning forwards. Their skin is paler than that of the Papuans—some of them are almost yellow—but they are very dirty and smear their faces with a black oily mixture. All of them have the central membrane of the nose pierced and adorned with a slip of boar's tusk or bone. Their hair is short and woolly, black or sometimes brown, and occasionally made lighter with a treatment by lime or mud. The younger men have whiskers and the older ones beards; their eyes are large and round, with a sleepy and dog-like expression.

'They adorn themselves with arm bands, leg bands, or

necklaces ; but their most ornamental possessions are their bags of fine coloured fibres ; they each carry a large and a small one, and in these they keep all their property—shell ornaments, flint knives exactly like those found in our own country, short daggers of sharpened cassowary bone, betel nut, tobacco, with firestick and rattan and tinder. The tobacco is smoked chiefly in cigarettes, made with thin slips of dry leaf. But the Tápiro use pipes too ; their form of pipe is a single cylinder of bamboo about an inch in diameter and a few inches in length. The smoker rolls a small plug of tobacco, and pushes it down to about the middle of the pipe, then holds it upright between his lips, and draws out the smoke from below.

‘The fire is obtained with an apparatus in three parts, a split stick, a rattan, and tinder. The split stick is held open by a small pebble placed between the split halves. The rattan is a long coiled piece of split rattan cane fibre, and the tinder is of dried moss or a bit of the sheath of a palm shoot. The method of making fire is as follows. In the split of the stick, between the pebble and the solid part, is placed a bit of tinder. The Tápiro lays the stick on the ground and puts his foot on the solid unsplit end to hold it. Then, having unwound a yard of the rattan, he passes it under the stick at the point where the tinder is placed, and see-saws it backwards and forwards with extreme rapidity. In from ten to thirty seconds the rattan wears through and snaps, but he picks up the stick with the tinder, which is probably begun by this time to smoulder, and blows it into flame.’ The explorers only succeeded in making fire in this way with great difficulty and after many attempts, but the Tápiro do it with the utmost ease, and scorned the boxes of matches which the white men offered them.

Of all the possessions of the Pygmies, by far the most interesting were these two—the firesticks and the flint knives. Wollaston was profoundly impressed by seeing them in use ; and no wonder, for here again, as in the Papuan village, he was looking back into the life of our own forerunners of thousands of years ago. With some such instrument as this they too lit their daily fire ; with just such flint knives as these, made in exactly the same way,

they too carved their bows, pointed their arrows of wood, worked their bowls and platters, and cut their strings of fibre or of tendon. Wollaston, like other men of science, had long known this much of primitive life and its resources, but he had probably felt it difficult to realise the courage and skill and dexterity with which Neolithic Man got his living in a difficult world, and to picture him in the act of doing it. And here after all he saw the whole life before his eyes—no picture, but a day light reality.

7. JUNGLE-BOUND

The explorers had achieved some of the most interesting experiences which can fall to the lot of any discoverer: they had found the Ancient World, thought to have passed away long since, complete with all its birds and beasts and tribes of men. But one of their objects had eluded them entirely: they never succeeded in setting foot on the Snow Mountains, though they made many attempts, and were for months within forty miles of them. The Dutch explorer, Mr Lorentz, was more fortunate; he was better informed as to the right way of approach, and in this expedition, which was his second, he succeeded in climbing Mount Wilhelmina, and visited the English camp at Wakatimi on his way back.

After this, from April to December, the British expedition had a hard and disappointing time of it, jungle-bound and struggling continually with bad weather, floods, and sickness. The Malay coolies suffered fearfully, and became quite incompetent as carriers.

On the high ground beyond the Iwaka the explorers found really beautiful scenery, and after the Gurkhas had for four days cut a path through trees and scented scrub they gained a ridge 5800 feet high, from which a superb view could be seen. There before them rose Mount Godman and Wataikwa Mountain; between and beyond these, the tremendous cliffs of Mount Leonard Darwin, 13,882 feet in height, of which 10,000 feet is an almost vertical precipice; to the west the Charles Louis range; to the east the Cock's Comb, behind which banks of cloud hid the summit of Mount Carstensz. Below them lay

innumerable rivers, glittering in the sun, among them the four which they had crossed with so much labour, the Tuaba, Kamura, Wataikwa, and Iwaka. 'During the following days,' says Wollaston, 'while we were stumbling back to Parimau, along the now familiar track, we wondered whether we should be the last as well as the first Europeans to penetrate into that forsaken region. It has been mapped now, and our wanderings have shown that it is not the way by which any sane person would go who wished to explore the Snow Mountains. It is a region absolutely without inhabitants, and the Papuans who live on the upper waters of the Mimika and Kamura Rivers shun it even as a hunting-ground. So it may safely be supposed that it will long be left untouched; the Birds of Paradise will call by day, the cassowaries will boom by night, and the leeches will stretch themselves anxiously on their leaves, but it will be a long time before another white man comes to disturb them.'

EXERCISE

Study a map of New Guinea and notice the position of the Snow Mountains, the Kapare River, and the width of the plain between the Snow Mountains and the sea.

NOTES

I. JOHN FRANKLIN

meteorologist : One who studies the atmosphere, the movement of clouds, the direction of prevailing winds, etc.

Hudson's Bay Company : A trading company that has trading stations (factories) in the north-west of the American continent. At these stations European articles of commerce are exchanged for furs and other products of these regions. The Company has its own ships and sailors, accustomed to sail in ice-encumbered seas.

Yarmouth, in Norfolk : His ship went north-about, *i.e.* round the north of Great Britain.

Fort York : Many of the Company's stations were fortified for protection. Fort York's position was, approximately, 57° N., 93° W.

tobogganed : Allowed the sledges to slide down-hill.

portage : Many words in common use in Canada are of French origin, owing to the fact that it was formerly a French colony. A portage is a place where the river is impassable, through shallows, waterfalls, or rapids, and where canoes have to be carried past the obstructions. The word is derived from the French, *porter*, to carry.

calumet : The pipe of peace, each taking turn to smoke the calumet. This word also is of French origin.

lading : Load. A word used to signify the load, or cargo, carried by ships.

pemmican : Dried meat. A North-American form of preserved food convenient for carrying long distances.

Esquimaux : The French name for Eskimos.

Bois Brûlés : An Indian with a French name.

parchment of deerskin : Skin stripped of hair and dried.

voyageur : One who makes journeys. Travelling in northern Canada being made by river a great deal, voyageurs are skilful boatmen.

venison : The flesh of deer.

'*Ah! que nous sommes maigres!*' : 'Oh, how thin we are!'

Point Lake : Their camp at the eastern end of this lake was about fifty miles from Fort Enterprise.

'*Ah! le monde!*' Means literally, 'Oh! the world!' It signifies here mob of people, crowd.

II. DAVID LIVINGSTONE

Highlander : A native of the Highlands of Scotland, as distinct from the Lowlands.

Gaelic : The language of the Highland people of Scotland ; a language of the Kelts.

yam : A root vegetable, or tuber.

Middle Passage : The slaves were transferred from the ports on the coast by ship to the plantations where they were employed. They were confined below deck, and died in large numbers from heat and suffocation.

Sepoys : Indian soldiers.

Nassick boys : Indians from Nasik, near Bombay. The word 'boy' is applied to grown men-servants in India.

Pharaoh's lean kine : From the story in the Bible. The cattle in question were so lean that, however much they ate, they grew no fatter.

G.C.B. : Grand Cross of the Order of the Bath—a high distinction.
C.B. signifies a Companion of the same Order.

III. HENRY STANLEY

Winchester rifle : An American rifle that could fire several shots without being reloaded.

St. Asaph Union Workhouse : One of the houses provided by the Government of Great Britain for poor people who are no longer able to support themselves.

the prodigal son : From a story in the Bible, where the son, having left his home, returned to it, and was received with affection and hospitality.

scouring : Cleaning by rubbing with sand and water.

Civil War : The war between the Northern and Southern States of America, the North desiring to set all slaves free, the South desiring to retain them.

2

Merchant Service : Ships plying with merchandise or passengers, as distinct from the Navy, the ships of which are intended for war.

Abyssinia : Ancient Ethiopia, an empire consisting of a number of kingdoms. King Theodore was suzerain over the other kings at the time of the war.

percussion guns : Guns fired by means of percussion caps, separate from the charge of powder. They were liable to misfire.

matchlocks : Guns fired by means of a slow match.

cabled : Communicated by telegraph ; the message is conveyed along cables that extend from country to country on the bed of the sea.

Ruwenzori : This range of mountains extends north and south and marks the western edge of the plateau which contains the great African lakes.

IV. ROBERT BURKE AND W. J. WILLS

Crimean War: The war between Turkey and Russia in which Great Britain participated, taking the side of Turkey.

Cooper's Creek: A creek of the Cooper River, to the east of Lake Eyre.

December 16: Nearly midsummer in Australia.

nardoo seeds: Seeds of the nardoo plant, which is not unlike clover in appearance, but grows in marshy places.

box bush: A slow-growing evergreen shrub.

portulac, or purslane, is a plant eaten as salad.

caché: Place where something is hidden.

billy of water: The Australian name for can of water.

grub: A slang word meaning 'food.'

V. FRANCIS YOUNGHUSBAND

Dharmasala: Pronounced Dhurumsala.

a tramp: One who spends his life on the road, living as best he can.

Mr James was an amateur tramp, fond of walking in lonely places and fending for himself.

lily of the valley: A small, sweet-smelling lily that will grow in shady places.

maidenhair: A kind of fern.

gentian: A deep blue flower.

azaleas: Bushes bearing flowers of diverse colours, growing where heather grows.

heather: A plant that grows on heaths; usually on high land where there is little or no chalk in the soil.

pumice: Lava permeated with small holes. It is light both in colour and weight.

Intelligence work: Making observations for the information of the British Government.

old screw: An idiom signifying a mean man. The word screw suggests pressure. The man in question exerted pressure to squeeze as much out of his hired man as possible.

tael: A Tael is the indigenous Chinese unit of value. It is equal to $1\frac{1}{4}$ oz., but varies in different parts of China. (In India, a tola, the weight of a rupee, corresponds to the Chinese tael.)

wild asses or horses: Both wild horses and asses are indigenous to Mongolia.

Chinese, Mongols, etc.: Turkis live in the west of Mongolia, Chinese in the south, and Mongols are nomad people. The Mongols comprise several tribes of which the Kalmaks are one. The Kalkha tribesmen of Northern Mongolia are known as Tatars. The Turki people are Mongol in type without having the high cheek-bones and other Mongol features so strongly marked as the Tatars. All these people are horsemen.

'Hindustani zaban bol sakta': Literally, 'Hindustani language speak am able.'

- Andijanis* : People from Andijan in Turkistan (*i.e.* land of the Turks).
- Hajji* : A title of distinction applied to one who has made the pilgrimage to the birthplace of Mahomed.
- Abdur Rahman* : The Amir of Afghanistan, who maintained friendship with Great Britain and India.
- 25 cents* : Owing to the cumbrous nature of the tael, a foreign coin became current in China. This was the Spanish dollar, adopted for the purity of its silver. This was replaced later by the Mexican dollar. The dollar is divided into 100 parts called cents. A dollar was worth something less than a tael.
- Kirghiz* : A Turki people.
- Pathan* : Pronounced Pá-tán, with the accent on the second syllable; an inhabitant of Afghanistan.
- Chinese Amban* : This part of Turkistan was included in the empire of China. The Amban was the Chinese Political Officer, resident in Turkistan.
- Ladaki* : People belonging to Ladak, or Leh, in Kashmir, and therefore accustomed to mountains.
- Balti* : From Baltistan.
- seven months* : The amount of leave which he had obtained from his regiment.

THE MISSION TO TIBET

- The Commissioner* : Sir Francis Younghusband, who carried the Commission of the King of England.

VI. ROBERT SCOTT

- Antarctic* : Opposite to the Arctic ; South Pole as opposed to North Pole.
- barrier* : Barrier of ice that surrounds the Antarctic continent.
- MS.* : Signifying the word manuscript.
- Ski* : Pronounced she.
- statute mile* : Mile determined by Act of Parliament. A statute mile is a little less than a nautical or geographical mile, which is one-sixtieth of a degree (*i.e.* one minute) of a great circle round the earth. A statute mile is 5280 feet ; a nautical mile is 6080 feet.
- blizzard* : Wind and snow together ; the worst possible kind of weather.
- crook* : A slang word meaning 'one who was liable to break down.'
- Shackleton* : The explorer who had up till then succeeded in getting nearest to the Pole.
- hoosh*, or hash, a dish of meat and vegetables stewed together.
- let alone* : An idiom. The sentence means : 'One cannot see the next tent, much less the land.'
- blows* : Seamen refer to strong winds as 'blows.'

ex-motor party : The party now without motors—formerly a motor party.

relay work : So tired that they had to take turns.

crevasses : Fissures in the ice.

crampons : Iron plate with spikes to give a firm foothold on slippery ice.

pemmican : Meat and fat pounded together and dried.

work out sights : By means of a sextant, the angle which one of the heavenly bodies makes with the earth's surface is determined. This is called a 'sight,' from which the position of the observer upon the surface of the earth can be ascertained by mathematics.

cairn : A pile of stones erected by man.

sastrugi : The Latin plural of the word *sastrugus*, which also occurs in the text.

King Haakon : The King of Norway.

scurvy : The blood out of order owing to lack of fresh vegetables. This affects the general health adversely.

Barrier : The ice barrier that forms a ring round the Polar plateau.

late temperatures : March is autumn in the Antarctic.

VII. ALEXANDER WOLLASTON

German East Africa : The country east of Lake Tanganyika, now a British Protectorate.

Murmansk : In Arctic Europe.

fauna : Animals of a region.

flora : Plants of a region.

botany : The study of plants.

entomology : The study of insects.

hartebeeste : The earliest European settlers in South Africa were Dutch, hence the Dutch names of animals. The hartebeeste is a kind of antelope; the wildebeeste is a gnu. The word gazelle, a small and gentle kind of antelope, is of Arab origin. The Arabs were early settlers in Africa from the north.

long-legged stilt : Evidently a bird that feeds at the margins of lakes, because he has long legs that enable him to wade. The *proanthracitis* of a similar type, his shanks being long as well as legs. There are long-legged birds; something like storks.

hippo : An abbreviation of hippopotamus.

papyrus : A plant with long, narrow leaves, which people formerly used to write on. Can you suggest a word that may have been derived from papyrus? Sedges, including papyruses, grow in marshy places.

the Hon. Gerald Legge : The son of a peer has the word 'honourable' placed before his name when written. He would be addressed verbally as Mr Legge.

hyrax : A small animal.

begonias, in temperate climates are less than a foot high as a rule. Lobelias are no taller. Groundsel, ling, and St John's wort are all small plants.

- papilionaceous* : Resembling a butterfly.
acanthus, dombeyas : Kinds of plants bearing flowers.
crampons : Metal hooks with which to grip the ice.
erratic boulder : Detached from the mountain and distinct from it.
quivering bog : Soil of decomposed vegetable matter, soft, and saturated with water, so that it quivered like a jelly. Process of decomposition.
ever-lastings : Everlasting flowers. So called because when dry the petals do not fall.
ornithology : The study of birds.
cassowary : A bird corresponding to the ostrich of Australia.
anthropology : The study of mankind.
Neo-lithic Age : The new Stone Age as distinguished from the old, or palæo-lithic, Stone Age.
chow-dog : A Chinese dog, large and furry, with pointed nose and upstanding ears.
Gurkhas : People of Nepal who form the personnel of the Gurkha regiments of the Indian army. The national weapon is a short curved scimitar, heavy at the end, called a *kukri*.
vanilla : The East Indies are famous for their spices. West of Papua are the Spice Islands, from which cloves and nutmegs come. Amboina is one of the Spice Islands. The vanilla is a vine that twines round other trees.
rain in January : During the prevalence of the northern monsoon; the rainy season in Papua.
plane-table : A surveying instrument.
taro : An edible root.
leeches : A blood-sucking parasite that will wriggle even through the eyelet holes of boots; hence puttees are worn in places where there are leeches. Puttees are hot and uncomfortable in the tropics, but are less irksome than leeches.